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ABSTRACT

In preparing this evaluation report, the Florida State Advisory Council on Vocational and Technical Education believed that evaluation should (1) focus on the people and their needs, (2) look into all parts of the human resources development program of the State, and (3) identify the employment opportunities within the State and the vocational services required. Among the findings are: (1) Effective programs in guidance and counseling require full support for implementation, (2) There is a very positive return on investment in vocational-technical education both to the individual and to society, (3) Community college level programs for the disadvantaged are more diversified and comprehensive than secondary level programs, and (4) Employers are not completely happy with the products of Florida's schools. Recommendations concern: (1) better publicizing, (2) work experience programs for counselors, (3) accurate labor market supply and demand information, (4) occupational programs at the secondary and presecondary level, and (5) adequate funds for vocational guidance. (Author/JS)

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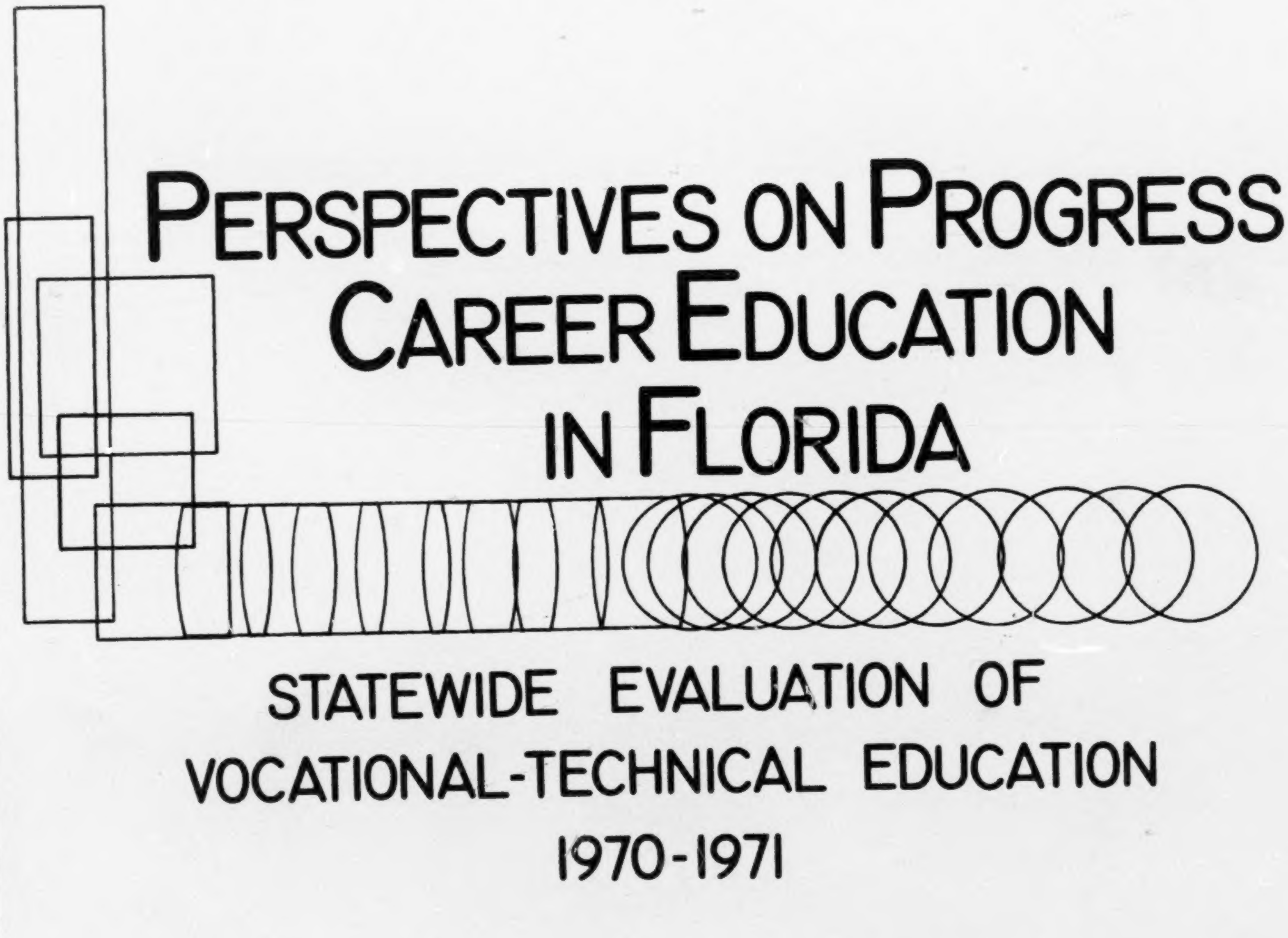

PERSPECTIVES ON PROGRESS: CAREER EDUCATION IN FLORIDA

STATEWIDE EVALUATION OF VOCATIONAL-TECHNICAL EDUCATION 1970-1971

RICHARD H. P. KRAFT
PROJECT DIRECTOR

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PERSPECTIVES ON PROGRESS: CAREER EDUCATION IN FLORIDA

Statewide Evaluation of Vocational-Technical Education 1970-1971

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Grant No. 71-0004
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1971

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DEPARTMENT OF EDUCATIONAL ADMINISTRATION

COLLEGE OF EDUCATION

June 1, 1971

Mr. Walter H. Clausen, Chairman
Florida State Advisory Council on
  Vocational and Technical Education
Room 254 Knott Building
Tallahassee, Florida 32304

Dear Mr. Clausen:

The Study Group for Florida Statewide Evaluation of Vocational-Technical Education submits to you the Second Annual Report on Career Education in Florida for the school year 1970-71.

It is our hope that the report will be helpful to all who are concerned with strengthening the State's comprehensive system of vocational-technical education.

Respectfully,

Richard H. P. Kraft

Richard H. P. Kraft
Associate Professor
RHPK:ab

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INTRODUCTION

As a part of its functions and responsibilities, the Florida State Advisory Council on Vocational and Technical Education must evaluate career education programs, services, and activities which have been developed under Florida's State Plan and publish and distribute the results thereof.

This report is to assist the Council in fulfilling this obligation for the 1970-71 school year. The basic research was performed by a special study group of the Department of Educational Administration of The Florida State University, under the direction of Dr. Richard H. P. Kraft.

The content of this report is developed along the lines of three goals: that evaluation should focus upon the people and their needs, that evaluation should look into all parts of the human resources development programs of the state, and that evaluation should identify the employment opportunities within the state and the vocational services required. Environmental areas of concentration were identified within each goal and individual reports by the various members of the study group focus on these areas.

People and their needs were examined from the aspect of the Guidance and Counseling Programs in Florida and a cost-effectiveness analysis of the occupational training programs within the state. Mr. Mather finds that, although rapid and significant changes are taking place, effective programs in guidance and counseling cannot be developed unless all those involved in vocational-technical education are in full support of its implementation. Mr. Harris, in his cost-benefit analysis, develops a rank order of twenty-two occupational training programs and finds that there is a very positive return on investment in vocational-technical education both to the individual participant and society.

The area of concentration for human resources development programs of the state was an evaluation of the vocational-technical programs for the disadvantaged in the public educational institutions of Florida. The three levels of programs were examined separately. Mr. Orr, in looking at vocational-technical education programs at the secondary school level found that these programs basically are designed for students with a middle-class orientation. Mr. Weisman found that in the community junior colleges the programs for the disadvantaged were diversified and comprehensive. Many innovative programs and services are being attempted, and the older, traditionally academic institutions have begun to reorient themselves to address their faculties to the needs of the disadvantaged groups in their communities. He found that new evaluation instruments that can more accurately measure the occupational potential of students from lower socio-economic families are needed. The broadest gap in special services for disadvantaged was in lack of provision for health and nutritional needs. In some areas transportation services were badly needed.

Mr. Stroud concentrated on the Area Vocational Centers and reports that improved cooperative, comprehensive planning is necessary and that improved and more effective methods are necessary for working with the disadvantaged.

Mr. Leese looked at the "output" side. His survey, "An Assessment of Public Vocational-Technical Education in Industry" showed that Florida's employers are not completely happy with the product of our schools--which should not be surprising--and that there appears to be an underlying current of distaste for the attitude of students about work and the emphasis by the schools on college preparatory curriculum.

Dr. Kraft and Mr. Pate assess the need for a vocational-technical information system, which could link the manpower needs of Florida with the output of the educational institutions, thus matching job-openings with qualifications of those leaving school. Dr. Kraft points out that the rationale for a Management Information System is to eliminate much of the "skills gap" which has been perpetuated to a large extent by the practice of industries importing skilled labor from other states as the need dictated. By providing the necessary manpower "from within," the demands of the business community can be satisfied, while at the same time the maximum employment possibilities for graduates of the educational institutions within a region or state can be assured (as well as for school drop-outs)--due to direct training for fields with high manpower demands, as well as rapid matching of qualifications for specific jobs available.

The study group was encouraged to express themselves freely. The conclusions stated in the individual reports reflect this wish and are the responsibility of the authors. They express their thanks to the many people who gave valuable time in helping in so many ways to fashion this report.

EVALUATION OF VOCATIONAL GUIDANCE IN FLORIDA

by

D. L. Mather

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PROCEDURES OF THE STUDY

The objective of this study was to expand upon the work done by Mr. Golden[1] last year. Rather than confine any investigation to a small sample of districts, an attempt was made to see what findings would be applicable to the entire Florida scene. Four "basic" questions were used to guide this work:

1. Were Mr. Golden's findings of last year representative of all Florida?
2. Are the State goals for guidance and counseling as outlined in Section 2.2 of the Florida State Plan for the Administration of Vocational Education being met?
3. What changes have occurred in the provisions for vocational guidance during the school year 1970-1971?
4. Are there any specific suggestions or recommendations that could be made to assist in the completion of this study?

Interviews were conducted in eleven counties in Florida. These counties represent rural areas, smaller urban regions, and large urban districts and take in all five of the areas designated by the Division of Vocational-Technical and Adult Education. In addition, state-wide information was gathered from the Division of Pupil Personnel Services.

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[1] *Roy E. Golden, "Vocational Guidance in Florida," in Vocational-Technical Education in Human Resource Development in Florida: A Statewide Evaluation (Tallahassee, Florida: State Department of Education, 1970).*

Counties visited were selected on the basis of their being representative within the category of size and location. Personnel interviewed were selected either by the investigator or by administrators within the district and were identified as people best able to answer the questions posed and most representative of all those affected by vocational guidance. Persons interviewed included guidance counselors, directors of vocational education, supervisors, superintendents, directors of vocational guidance, directors of area centers, principals, and parents.

A pattern for each interview was established at the beginning so that there would be consistency. The proceedings were confined to:

1. a brief comment upon the nature of the study.
2. reference to the State Plan and specifically Section 2.2
3. reference to the nature of vocational guidance within the county.
4. reference to the vocational situation within the county.
5. general concluding remarks and additional information.

Selection of information from the state-wide studies was done by subjectively examining all information gathered and taking that which was felt to be pertinent.

All quantitative data collected were evaluated and this report was written from this evaluation. Considering the nature of the changes being made in guidance in the state at this time and the number of similar projects in process it was felt that the above procedures would best complete the objectives of the study.

FINDINGS AND RECOMMENDATIONS

In last year's report,[1] Mr. Golden conducted in-depth investigations of the guidance services in five Florida counties. Recommendations based upon this investigation were:

1. more counselors are needed.
2. there should be a coordinator of guidance in every school district.
3. the role of the guidance department be better explained.
4. administrative interference in the guidance program be eliminated.
5. guidance personnel be employed during the summer.
6. physical facilities for guidance be improved.
7. paraprofessionals be hired to assist in the guidance program.
8. biases against the Vocational-Technical Education program be removed.
9. prevocational courses be developed.
10. extra-curricular courses be provided for Vocational-Technical Education students.
11. work-experience programs be provided for counselors.

For the most part, the findings of this study confirm what was reported last year. While there are, as always, exceptions to the rule, **vocational guidance is not a well-functioning and meaningful activity in Florida schools.** In many areas, especially those which can be classified as rural, **it simply does not exist.** Where it does, the programs are the results of the efforts of one or two individuals. The Florida State Plan for the Administration of Vocational Education has had **little if any effect.** As one county representative put it, "We are now going to have to get with it." (See Appendix A.)

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[1] *Ibid.*

To repeat, except in only a few instances, the state of vocational guidance within the schools is unchanged. What is important, however, is to acquire an appreciation of the basic issue. Changes in the physical structure of vocational guidance are in the developmental stages through legislative action within the past year. Appendixes B and C of this report have been included to give examples of the types of programs instituted and actions taken. One cannot say that nothing is being done. Much is being done, but the effect has yet to be found in the schools. However, there remains the necessity of up-grading the image of vocational-technical education. For any program to be a viable part of the school scene, no matter at what level, its merits must be sold to all involved. **You cannot change a program without changing the people as well.** There has been enough evidence from this study and similar ones to say that this has not been accomplished with vocational-technical education. To quote from one State Department official, "The individuals are ready but the public and administrators are not aware and/or don't want it."

People are success-oriented. They look upon education as a means of achieving better jobs, higher pay, and status. This means only one thing to most--university. "A student cannot survive in the future without some university education." Parents say this, educators say this, and counselors say this. The Special Vocational Education Subcommittee of the Florida House of Representatives Committee on Higher Education, in a report dated March 2, 1970, stated:

> Everyone is anxious for vocational education, but for someone else's children. The attitude that everyone must have a college degree to prove his worth is not only fostered by teachers, administrators, and school board members, but by businessmen, labor leaders, parents, and children themselves. . . intellectual snobbery that has spread so widely must be stopped. . . .

"How can we have an adequate program if the parents don't want it?", was a comment heard many times during the course of this investigation. When people were asked if a "Vocations Day" was a part of the guidance program, the typical answer was, "We have a day when the various universities present material, but there is nothing about occupations as such." It is obvious simply from the existence of this report that some people do feel that vocational-technical education is a necessary thing. **This fact has not been universally accepted.** An active public relations campaign aimed at school personnel, students, and the community as a whole will do much to make Vocational-Technical Education an integrated and equal part of the scene. An example of one practice which should not be allowed to continue is that of an adult education school with no budget for advertising.

To implement such a plan there must be cooperation among all who are involved in vocational-technical education. A major emphasis must be placed on counselors. They are the key to the success of any program because they, more than any others, have control over the direction students take when planning for the future. In short, then, **up-grade the image of vocational-technical education.**

At the same time, recommendations for specific changes in vocational guidance would be premature because of such governmental measures as House Bill No. 3898. This legislation, effective July 1, 1970, requires each district to provide adequate guidance services for students in grades K-12 in line with level one and level two as established in the Proposed Accreditation Standards for Florida Schools, 1969-1970 (see Appendix D). The plans for such guidance services were submitted to the Director of the Division of Elementary and Secondary Education by March 1, 1971, and are, at the time of this writing, under review by that department. To the question, "What is happening in vocational guidance in your district?", the answer invariably was "Nothing right now. We are too involved in House Bill 3898." In other words, most efforts to implement or improve the vocational guidance services within the districts visited were halted pending the preparation of these plans.

This explains a number of things: why there has been little if any change from last year, why the State Plan has had little effect, and what the prevailing way of creating change in education is. The future of vocational education in Florida depends upon what is outlined in the plans now being drawn up and the successful implementation of legislation passed during 1970.

If the provisions of House Bill 3898, House Bill 3892 (requiring job related vocational instruction in each district), House Bill 3895 (requiring each district or junior college to employ a certified director of vocational education), and House Bill 3893 (employment of occupational specialists), for example, are met by each district, such recommendations as lowering the counselor-pupil ratio, involvement of the administration and teachers in guidance procedures, and placement and follow-up provisions will have been met. The unfortunate aspect, from this observer's view, is that the standards will not have to be met, in many instances, until September 1, 1974. They should be met now.

Keeping in mind, then, that the focus of attention is not on the State Plan, typical comments on the state of vocational guidance in Florida are:[1]

Director of Guidance:

> We don't have the facilities to house them even if we had the counselors.
>
> We miss the borderline cases.
>
> The failure of vocational guidance is a joint responsibility . . . there is no desire and therefore no funding.

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[1] *It should be noted that these quotations are a composite of comments by various individuals occupying the positions indicated and cannot be credited to any one person.*

Director of Vocational Education:

I don't know what the guidance and counseling people are doing.

Vocational guidance seems to be an expanding area if the legislature stays interested.

We have nothing in the way of vocational guidance other than career units given by the guidance teachers.

Director of Instruction:

We need ideas and sample programs, not directives.

Just what is House Bill 3898?

Change the accreditation standards so that the vocational programs can be substituted for the same money.

Reverse the ratio of administration to counselors.

Director of Vocational Center:

Kids don't come to the counselor. . . they don't communicate. Too much depends upon the personality of the counselor.

We don't have counselors because there is the idea that adults don't need counseling.

You won't get the vocational specialist because this type of person is already in industry at higher pay.

If a district gets units for vocational education, the funds should be spent on vocational education and not put elsewhere.

Counselor:

There must be more understanding by administration and teachers about the work and problems of counselors.

There needs to be in-service with business and industry . . . some type of work experience would be ideal.

Superintendent:

We have a big problem getting certified vocational teachers.

> We don't have the funds for the regular program, let alone any other.
>
> The weight of the paper work necessary is beyond the capabilities of the small counties therefore things are missed or left. They should either make it less complicated or send help.
>
> Most things are geared to the bigger and more progressive counties; smaller areas are hung up.

District Plans for Guidance:

> How far can we go and how much will we be able to do in strengthening our guidance program in the next four years will be dependent primarily on action by the legislature to provide financial support.
>
> We recognize the problem of academic bias and want to work on it.
>
> We will employ occupational specialists if funds are provided.

In spite of the impression that may have been given up to this point, everything is **not** unsatisfactory. There were examples such as the Vital Information for Eduacation and Work project for the dissemination of vocational information in Broward County. Other counties are either establishing or expanding their vocational education offices and some are working hard to bring about administrative involvement in the counseling program. As one state director put it, "The problems and conflicts still exist, but many are now at least talking."

RECOMMENDATION I

It is recommended that **vocational-technical education be better publicized.** There must be a major public relations campaign put forward for vocational-technical education. People must be made to want it if it is to be at all effective. The bias that is mentioned so often is probably the major stumbling block to any successful program. If vocational guidance and the vocational program is to become what it is meant to be, then the philosophy must be accepted by all. There are a number of basic steps which must be taken. The most obvious is to reduce the uncertainty that does exist by providing a complete explanation of the program, its need, and the desired results. While some take the position that educational objectives cannot be sold as can a head of lettuce or a car, there still must be detailed communication with everyone involved. If many of those interviewed and who occupy administrative positions did not recognize the State Plan, it can be assumed that this ignorance carries deeper into the system. A program of public relations must be a two-way street with plenty of opportunity for feedback; only then can true uncertainty (or bias) be brought to the surface and eliminated. Only then, too, can a vocational guidance program become as effective as it should be. Vocational guidance obviously is only a part of the picture, yet because of the haziness about its objectives, it gets far more abuse than it deserves. People "tend to believe guidance is a cure-all; a panacea for all ills." **Discuss the problem, set the parameters, and remove the ignorance--then the program has a chance for success.**

RECOMMENDATION 2

It is recommended that **work experience programs for counselors be implemented.** In-service programs for counselors are an obvious need in the area of vocational guidance but these programs should include not only the academic information which is necessary but also the essential experience of having been out "on the job." Such a program also would help to resolve a definite power struggle that exists between counselors and administrators who are for vocational programs as well as those who are against them. "Academic counselors resent vocational people--they don't know the work and refuse to recognize it. Vocational is a bad word in all lights." "A counselor should not be a specialist. He must be knowledgeable in all areas." "Our counselors do not have any vocational guidance preparation." One county supervisor of vocational guidance did say with pride, "We have held workshops every summer in various vocational areas." He continued to say that his district intended to make vocational guidance and counseling an integral part of its program. This, unfortunately, was the exception rather than the rule. Counselors must be vocationally oriented and their background must include work experience.

RECOMMENDATION 3[1]

It is recommended that **more accurate information regarding** labor market supply and demand be used in vocational guidance. In all but a few instances, the only local information regarding the labor market supply and demand comes from the Florida State Employment Service and the Bureau of Employment Service (Florida Department of Commerce). The Florida State information is based on "employment service records and represents only occupations of most interest to applicants and employers using the Florida State Employment Service." Only about 25 per cent of the employers use the employment service and obviously all potential employees do not use the service. Therefore, this information can not be generalized to the entire population because of the sampling bias involved. The Bureau of Employment Service, a Division of the Florida Department of Commerce, prints a chart indicating the estimated need for workers for a six month period for twenty cities in Florida. This information comes from the employment service and is inaccurate due to the sampling bias described above.

---

[1] *Much of the information for this recommendation comes from Mr. Jay Burke, Adult Guidance Counselor at Lindsey Hopkins Education Center, Miami.*

More accurate information can be obtained from newspaper advertisements for employees. It is suggested that periodic surveys be made on the state level of newspaper job advertisements in place of the chart printed by the Bureau of Employment Services. This can be done by obtaining the newspaper with the largest daily circulation from each of these twenty cities or from geographical areas, randomly choosing sampling days or surveying all the newspapers for the same day, and printing the results in terms of number of jobs for an occupation over the number of people in the labor force in that city or area and the totals printed monthly.

This survey, as described, would require the services of only one or two clerks. It would contain accurate information which could be used over a period of time to help establish trends. It also is recommended that firms which are the biggest employers in an area be requested to send information regarding job opportunities not advertised in the paper to this central labor information office and that this information be included in the survey.

This type of service could be tied easily to a system of job description and training charts such as those currently being developed in Broward and Escambia counties. This information, which is localized and current, is on microfilm with rapid printout service available. If this is put into operation on a statewide level, any citizen, student, or counselor can easily obtain accurate data on jobs available, training available, and associated trends.

RECOMMENDATION 4

It is recommended that **occupational orientation courses be offered at secondary and pre-secondary levels.** Career choice and the necessary choice of training cannot be made out of ignorance. A need for semi-skilled workers rather than the university trained worker, for example, has arisen recently. If streaming programs such as those being developed in Duval County and elsewhere across the country grow in number, the point of decision will occur earlier than most expect. The push for the prestige of a university background has made it difficult for many students to accomplish whatever goals they have in life. The primary purpose of a course in occupations is to provide a background of information or a broad exposure to occupational alternatives prior to the necessity for selecting post-secondary training. The end result would be that the student should gain enough information to ensure his making a good vocational choice.

RECOMMENDATION 5

It is recommended that **adequate funds be made available for vocational guidance.** Admittedly, this is an obvious and yet touchy subject considering the financial crisis of today, but it still must be said--**more money must be allocated to vocational guidance** if any developmental success is to be expected. Every recommendation necessitates the expenditure of funds. Every district visited put money as its number one priority. This was so obvious that most of the time money was mentioned it was passed over with a chuckle and a statement to the effect, "Well, of course. . . ." or, "Wouldn't it be nice if. . . it would solve most of our troubles." Yet, what success does a program such as the implementation of vocational specialists under House Bill 3892 have without accompanying funds? Indeed, indications are that most districts will not proceed with this plan unless funds are allocated from the state. **Advances mean the expenditure of funds.**

Plans must follow conviction but must be followed by money. The challenge can be made that if further development of Vocational-Technical Education is worthwhile, then money must be spent, and spent intelligently. More counselors must be hired, they must be better trained, and they must be backed with adequate and appropriate physical resources. This means only one thing--money

CONCLUDING REMARKS

Vocational guidance in Florida remains primarily unchanged from last year. This is not to condemn all that is being done, however. A review of plans under development, pilot programs, legislation (see Appendixes B and D), and the work of many outstanding individuals indicates that the future looks fairly bright if it is allowed to continue and if support remains.

Provisions have been made to reduce the counselor-pupil ratio, bring in paraprofessionals, develop better training programs, and coordinate information. Progress, then, is only dependent upon a united effort to make the program the best that is possible. This must be the goal and all involved must work towards it. There is no room for bias, personality conflict, or ignorance.

SUMMARY OF RECOMMENDATIONS

1. It is recommended that vocational-technical education be better publicized so that all who are affected are fully aware of its objectives and programs.

2. It is recommended that work-experience programs for counselors be implemented in conjunction with the in-service programs so that counselors are able to relate better to on-the-job activities.

3. It is recommended that more accurate information regarding labor market supply and demand be used in vocational guidance.

4. It is recommended that occupational and orientation courses be offered at the secondary and pre-secondary levels.

5. It is recommended that adequate funds be made available for vocational guidance so that developmental success can be assured.

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APPENDIX A

IMPLEMENTATION OF THE GOALS OF THE STATE PLAN

The state goals for guidance and counseling programs of pre-vocational and vocational education were given in Section 2.2 of the Florida State Plan for the Administration of Vocational Education. The goals were stated by indicating that funds will be used to:

1. provide group and individual guidance for the development of career choice.

2. continue development and expansion of guidance services at area vocational-technical centers.

3. provide placement and follow-up services for secondary and post-secondary vocational students.

4. update the Directory of Post-Secondary and Adult Occupation Curriculum for Florida.

5. provide and maintain community liaison between vocational students and employers.

6. provide workshops, institutes, and other in-service activities for vocational guidance and counseling personnel.

It was further stated that approximately 15 per cent of the funds allotted to counseling will be used for pre-vocational instruction.

A sample of the counties visited indicates the following implementation:

Goals / County	1	2	3	4	5	6	Effect of State Plan
1	Yes	Yes	Not by Design	?	Yes	Yes	Some
2	Indiv. only	?	Not by design	?	Not by design	None	None
3	Yes	?	Not by design	?	Not by design	None	None
4	Yes	Yes	Yes	?	Yes	Yes	None
5	Yes	Yes	Not by design	Needed	Yes	Limited	None
6	Indiv. only	None	Not by design	?	Not by design	Limited	None
7	No	Planned	Not by design	?	Not by design	Planned	None
8	Indiv. only	No	Not by design	?	No jobs avail.	Yes	None
9	Yes	No	Not by design	?	Yes	?	None

? = the respondent could not give an answer.

Not by design = the goal is implemented on an informal basis but there is no plan or policy.

APPENDIX B

BRIEF OF 1970 VOCATIONAL LEGISLATION

a. At the present time, vocational education is limited to courses to develop occupational proficiency and shall not be construed to mean any general or exploratory courses offered with any other objectives. (Section 228.041 (26) F.S.). State support for vocational education in the K-12 foundation program generally is based upon one instruction unit for an employed teacher. (Section 236.04 (5) F.S.). In the junior college foundation program the allocation of instructional units is based on one unit for each ten students in average daily attendance in the occupational program (Section 230.765 (1) F.S.). The Florida Legislature in its 1970 session redefined vocational education, provided for the establishment of minimum requirements for a comprehensive vocational program in Florida, including the evaluation of educational output and employment performance, the classification of courses by cost-category and a new procedure for determining instructional special teacher service and supervisory units for vocational education beginning with the 1971-72 fiscal year. Additionally, the Legislature remandated job related instruction in each school district, required the employment of a director of vocational education by each school district and junior college, and created the Vocational Improvement Fund. Also set forth in legislation is the requirement that school districts provide minimum counselling service and authorization for the training and employment of occupational specialists.

b. House Bill 3897--Definition of Vocational Education. This act defines vocational education as that instruction not leading to a baccalaureate degree, either graded or ungraded, which provides:

   (1) Instruction given for the purpose of developing occupational proficiency necessary for gainful employment.

   (2) Instruction in exploratory courses designed to familiarize persons with the world of work and motivating them to pursue courses in vocational education.

   (3) Instruction in industrial arts.

   (4) Instruction in vocationally oriented home economics.

c. House Bill 3950--Providing procedures for determining instruction units for vocational education.

This act provides for:

(1) The state board of education to adopt regulations setting forth minimum requirements for a comprehensive vocational education program within the new definition to begin with the elementary grades, effective in 1971-72. This plan is to include evaluation of educational output and employment performance with emphasis on job placement and satisfactory performance on the job.

(2) The classification of all vocational courses into not less than three (3) nor more than twenty (20) cost categories in accordance with criteria established in the act.

(3) The state board of education to define a full-time equivalent student, provided an FTE is not less than 810 student contact hours of instruction. The determination of the number of FTE to provide an instructional unit in each cost category.

(4) The state board of education to adopt regulations and procedures for the earning and allocation of special teacher units and supervisor units.

(5) The allocation of instruction units to districts based upon the FTE served during the prior year with provisions to adjust units during year of operation.

(6) The Commissioner of Education to allocate up to an additional one hundred (100) units in vocational education for meeting statewide needs in accordance with state board of education regulations.

(7) Exemption of the vocational program from the requirement that instructional personnel be employed on 90% of the instruction units.

d. House Bill 3951--Providing procedures for determining instruction units for vocational education in junior college.

Provisions of this act in general, parallel House Bill 3950, with the intent that funding formulas will provide comparable funding for comparable programs in vocational education regardless of the type of institution in which they are offered.

e. House Bill 3892--Requires job related vocational instruction in each district.

This act provides:

(1) That the department of education shall develop and implement regulations to become effective September 1, 1971, providing for practical courses of direct job-related instruction in at least five (5) vocational areas in each school district in the state. Such instruction shall be available to all residents of the district regardless of previous academic attainment and shall be available throughout the year. District boards and local welfare boards shall cooperate to locate, identify, and attempt to recruit all unemployed and under-employed persons into such courses.

(2) That provisional certification shall be granted instructors and that no instructor shall be paid less than the salary for a Rank III instructor, and salary supplements shall be allowed if necessary to obtain suitable instructional personnel.

(3) That these courses are to be supported by instruction units and that the minimum support from the district or junior college for vocational education be at least in the amount of state or federal funds that the vocational education programs earn. The expenditure of earned funds to be indicated in an identifiable manner.

The Department of Education shall develop regulations providing for practical courses of direct job related instruction in every school district, effective no later than September 1, 1971.

These regulations will place primary responsibility for the development of instructional courses with the district school boards.

Each district must have a minimum of five vocational educational areas (unidentified).

Instruction will be available to all persons at any time during the academic year.

Each district school board and welfare board will cooperate in actively recruiting the participation of unemployed and under-employed in these programs.

Provisional teaching certifications will be granted when a shortage of academically qualified teachers has been demonstrated.

Courses of job related instruction shall be eligible for vocational education instruction units.

Pursuant to regulations, one or more school district or one or more junior college may jointly implement the provisions of this bill.

f. House Bill 3895--Each school district and junior college to employ a certified director of vocational education.

This act provides that:

(1) Each school district earning a special teacher services unit and each junior college earning an administrative and special instruction unit through vocational education, shall employ a certified director of vocational education.

(2) The director is to administer a district-wide or junior college program in vocational education and shall be on the immediate staff of the county superintendent or junior college president at a level requiring involvement in planning and implementing vocational programs.

(3) Two or more school districts, two or more junior college districts or combinations thereof may jointly hire a single director.

g. House Bill 3896--Establishes a vocational improvement fund.

This act provides that:

(1) Priority projects in the use of funds appropriated under this act are to be used for development of vocational education programs for:

- (a) disadvantaged
- (b) introductory programs for middle and junior high schools
- (c) training and in-service projects for improving vocational counseling
- (d) career associate program
- (e) development of information systems and job placement services
- (f) training, in-service and recruiting projects for vocational teachers and support personnel
- (g) projects designed to restructure vocational education and to insure greater community involvement

(2) Department of education to establish rules and regulations for submission of projects and awarding of funds.

(3) District school boards eligible to apply for such funds.

(4) Priority to projects in which all community resources are involved and which have maximum cooperation between school boards and other local agencies operating parallel or overlapping programs.

(5) Each year, department of education to submit as part of legislative budget request, listing of eligible projects and estimated amount of funds needed to support the projects.

(6) Commissioner of education, 30 days prior to each regular session, to submit status report of projects funded under this fund.

h. House Bill 3898--Minimum Counseling services.

This act provides that:

(1) Guidelines be developed to provide adequate counseling services in school districts with alternative methods of providing such services outside traditional graduate school certification requirements.

(2) Each school district submit a plan for providing required level of counseling services. Plans to provide appropriate phasing-in of services to meet required student-counselor ratios for elementary and secondary students. Plans to be approved by department of education.

i. House Bill 3893--Occupational Specialists

This act provides that:

(1) Occupational specialists may be used in place of counselors up to maximum of 50% of all counseling positions in the district, to work under supervision of certified counselor. Provisional certification shall be granted when necessary and occupational specialists to be paid not less than salary for Rank III instructor. Salary supplement shall be allowed if necessary. These occupational specialists will be under the supervision of a certified counselor.

(2) Pursuant to policies and regulations, each school district may submit a program to identify and train occupational specialists with indication that the district board will provide 25% of total cost of the program.

(3) That 75% of total cost of approved programs shall be authorized by department of education.

(4) That a report be made 30 days prior to 1971 session of the legislature and each year thereafter on criteria and funding requirements, and after 1971-72 on effectiveness and efficiency of the program.

Also, the department will provide a statement defining the required funding of accepted programs.

j. House Bill No. 3894

Established the "High Priority Education Projects Fund." Said fund will consist of 5% of the combined resources dedicated to colleges or schools of education in the state university system for the preceding year.

Purpose of said funds is to stimulate rapid changes within Florida's colleges of education.

The current focus of this act is on Vocational Education.

The following is a list of current objectives:

(1) To develop new courses in Vocational Education
(2) Modify existing courses
(3) Fuse intellectual and vocational curricula
(4) Develop new concept of the role and function of counselors
(5) Develop local job placement capabilities within the public school system
(6) Inform and motivate teachers and administrators concerning vocational education.

APPENDIX C

SUMMARY OF CURRENT, PLANNED AND PRIORITY ACTIVITIES RELATED TO VOCATIONAL GUIDANCE IN FLORIDA

I. DEVELOP NEW COURSES OR PROGRAMS

A. ELEMENTARY TEACHERS

EDV 407 - The Teacher and the World of Work - University of South Florida

Objectives: To create a climate of inquiry that will allow each student to analyze his own career plans in relationship to four basic questions:

(1) What forces and institutions tend to allocate man to a job
(2) What is the relationship between the job a man holds and his life style?
(3) What is the nature of adult needs and responsibilities to educational programs?
(4) What are the indices for measurement of one's "full power?"

IA 455 - Industrial Arts for Elementary School Teachers - Florida A & M University

Objectives: To provide elementary education teacher trainees with knowledge about industry and industrial processes in such a way as to enable them to integrate industrial concepts and applications into their daily planning and teaching

IE 464 - Industrial Arts for Elementary Teachers - University of West Florida

Objectives: To help elementary teachers improve their ability to teach basic skills, reading, etc.
To enable the teacher to permit the child to be creative and have self-expression.
To familiarize teachers with industrial type occupations

Summer Workshop for Inservice Elementary Teachers - University of South Florida

Objectives: To change concept of world of work
To increase awareness of new aspects of world of work

To develop awareness of relevance of economics to world of work.
To increase confidence in knowledge of economics.

A Planning Study for a Computer-Manager Instruction Approach to Teacher Training in Vocational Guidance - Florida State University
Objectives: To develop a new training model utilizing CMI to provide for a team approach to vocational guidance.
To design and specify CMI training modules and manuals.
To specify plan for implementation, evaluation, and dissemination of the CMI vocational training model.

Project LOOM (Learner Oriented Occupational Materials)--Industrial Arts Elementary Curriculum Project - Florida State University
Objectives: To develop occupational instructional materials for elementary students.
To develop in elementary teachers an awareness of the world of work.

Social Studies Area of Elementary Block-Involvement in Community Aspect - University of South Florida
Objectives: To increase the awareness of preservice teachers concerning the world of work.
To build in economic knowledge and skills.
To relate curricula areas to world of work.

Changing Attitudes Toward World of Work - University of South Florida

Course for Teacher Trainees - Florida State University
Objective: To give teacher trainees vocational information, including opportunities, etc.

Inservice and Summer Training for Elementary Teachers (In Counties) - Florida State University
Objective: To acquaint elementary teachers with current materials and methods pertaining to the world of work.

Integration of Vocational Information Into Existing Preservice Curriculum - University of Florida
Objectives: To change attitude toward vocational education in general and specific occupations.

To enable teachers to expose students to a wide spectrum of careers.

Course for Elementary Teachers - University of Florida
Objectives: To give information concerning vocational education.
To become familiar with intent and objectives of vocational education.
To produce teachers who will support the vocational program.

Incorporation of Vocational Information into Methods Courses and Inservice Training - University of Florida

New Course for Elementary Teacher Trainees - Florida Atlantic University
Objective: To train how to expose children to world of work.

B. SECONDARY TEACHERS

1 A Planning Study for a Computer-Managed Instruction Approach to Teacher Training in Vocational Guidance - Florida State University
Objectives: To develop a new training model utilizing CMI to provide for a team approach to vocational guidance.
To design and specify CMI training modules and manuals.
To specify plan for implementation, evaluation, and dissemination of the CMI vocational training model.

VE 509 - Selection and Guidance of Vocational Students - Florida State University
Objectives: To teach prospective teachers how to interpret and follow-up on measures of aptitude and interest (general and specific).
To teach prospective teachers how to disseminate occupational information.
To teach prospective teachers how to select students for placement in occupational training courses
To teach prospective teachers concerning placement and follow-up of vocationally trained students

2 Inservice Workshop for Training Vocational Teachers to Teach Disadvantaged Youth - Florida A & M University

Objectives: To develop competencies among vocational teachers to teach occupational skills to disadvantaged youth.
To develop attitudes favorable toward teaching disadvantaged youth.
To introduce occupational education for disadvantaged into the pre-service program of secondary teachers (first vocational teachers then ALL teachers)

Course for Secondary Teachers - University of Florida
Objectives: To give information concerning vocational education.
To become familiar with intent and objectives of vocational education.
To produce teachers who will support the vocational program.

Incorporation of Vocational Information into Methods Courses and Inservice Training - University of Florida

Course-Orientation to Vocational Education - Florida State University
Objectives: To make meaningful to all teachers in edudation the objectives of vocational education.
To inform concerning selection and guidance of students in vocational education.

C. COUNSELORS

I Conference on Vocational Guidance - University of South Florida
Objectives: To improve relationships between vocational and guidance personnel and the services and programs they provide for young people.
To deal with potentials and problems related to the new proposed occupational specialist for the counties in Florida.

COU 509 - Information Services: Educational, Occupational, and Personal-Social - Florida State University
Objectives: To develop guidance and counseling skills
To assimilate and integrate occupation information
To develop innovative dissemination methods.

Course 502 - Vocational Psychology - University of West Florida

Objectives: To describe the gamut of possible occupations.
To inform concerning dynamics of work motivation.

Development of a Values Inventory - University of South Florida

Objectives: To develop better ways (set of instruments) for assessing values (as distinct from interest-personality measures).
To have an instrument with predictive and concurrent validity for vocational decision-making and related choices.

EDG 603 - Information Service in Guidance - University of South Florida

Objectives: To help prospective counselors become better informed in the information services.
To help prospective counselors become better able to provide such services.
To develop a positive attitude toward guidance.

EDG 683 - Occupational and Educational Information - Florida Atlantic University

Objectives: To study and identify the different kinds of occupational and educational information that counselors and clients need.
To learn where to obtain occupational and educational information and how to use it in vocational counseling.
To describe appropriate methods for classifying and filing occupational and educational information.
To identify the basic theories of vocational choice and development.
To identify principles and methods of teaching occupations.
To interpret and use test scores in making vocational and educational choices.
To utilize occupational and educational information in elementary schools.

EDV 441 - Selection and Guidance of Vocational Students - University of West Florida

Objectives: To inform counselors and teachers on how to select students best suited for vocational education.
To have counselors and teachers know how to guide these students and cope with their special problems.

GUID 503 - The Information Services - Florida A & M University
Objectives: To develop awareness of the knowledge and skills necessary in order to develop and administer an effective information service in the school.
To familiarize with theories of career choice.
To familiarize with means of mediating information.

VE 509 - Selection and Guidance of Vocational Students - Florida State University
Objectives: To teach how to interpret and follow-up general and specific measures of aptitude and interest.
To teach how to disseminate occupational information.
To teach how to select students for placement in occupational training courses.
To teach concerning placement and follow-up of vocationally-trained students.

2 Booklet for Counselors on Applications of Research - University of Florida
Objective: To increase the interest and skills of counselors in helping people choose careers.

Course - Career Development - University of South Florida
Objectives: To understand theoretical rationale for career development.
To understand patterns of career development.

Inservice Vocational Guidance Institutes (N=40) - University of Florida
Objectives: To give school counselors field experience and information about jobs through employer visitations.
To give counselors experience in vocational guidance interviewing.

To acquaint counselors with sources of information.
To increase awareness of training opportunities in vocational-technical education.

Inservice Workshop for Counselors - University of West Florida

Objectives: To familiarize counselors with the possibilities in the world of work.
To familiarize with techniques and methods of disseminating world of work information (K-12), e.g., films, speakers from the field.
To familiarize with tests in the area

Reproduction of Output from Information Service Course (EDG 603) - University of South Florida

Objective: To disseminate potentially useful reports on occupational possibilities, etc., to students and relevant school personnel.

Slide-Sound Set - Preservice and Inservice Counselors (Vocational Guidance in a Group Setting) - University of South Florida

Objectives: To produce a slide-sound set of vocational counseling in a group setting to be used with preservice and inservice counseling.
To assist counselors in assisting students in making vocational choices.

Study of Career Patterns of Adolescent Disadvantaged to Produce a Model - University of Florida

Objective: To develop a model for counseling disadvantaged to disseminate to preservice and inservice counselors.

View of Vocational Guidance at the International Level - London, England - Preserivce and Inservice - University of South Florida

Objectives: To develop a better understanding of vocational guidance.
To increase counselors' perspective of guidance at international level.
To introduce new procedures and techniques.
To bring back audio-visual materials.

Statewide Occupational Workshop - Florida Atlantic University

Objective: To update college counselors as to new programs in the state, e.g., data processing approach

Course - Vocational Education for Counselors - Florida State University

Objectives: To inform concerning available interest and aptitude tests.
To inform concerning occupations and to give practical experience.

Feasibility Study for Counselors at Undergraduate Level - University of South Florida

Objectives: To decrease preparation time for counselors.
To decrease preparation costs.
To increase availability of counselors to students.

Course in Vocational Counseling - University of Florida

Objective: To prepare counselors (K-12) in the area of vocational opportunities and job preparation.

D. OCCUPATIONAL SPECIALISTS

Coordination with County in Developing Program for Occupational Specialists - University of Florida

An Innovative Model to Train Supervisors and Occupational Learning Specialists (Summer, 1971) - Florida A & M University

Objectives: To develop an innovative model program which would: (a) train supervisors of occupational specialists, (b) train occupational specialists.
To demonstrate the operational and unique duties of occupational specialists which are complementary to other pupil-personnel workers.
To demonstrate the effectiveness of utilizing differentiated staffing and team approaches in pupil-personnel services.

New Program for Occupational Specialists (Summer, 1971) - Florida State University

Objectives: To prepare occupational specialists who can function under the direction of a trained counselor in public school settings.

To give them a broader exposure to the world of work.
To prepare them so that they can reach more students in an effective way with vocational-occupational information.

Additional Training for Some Counselors to be Trainers of Occupational Specialists - Florida Atlantic University
Objective: To prepare people to train occupational specialists.

Training for Occupational Specialists - Florida A & M University
Objective: To have occupational specialists be resource persons for counselor and school.

E. INDUSTRIAL ARTS TEACHERS

Course - (Vocational Education Division) - Florida State University
Objective: To provide supervised work experience for current teachers in order to update their knowledge and capabilities.

Training Program to Improve Vocational Educators' Effectiveness in Working with Disadvantaged Youth (1/71-6/71) - Florida A & M University
Objectives: To increase vocational educators' understanding of the needs and nature of various disadvantaged populations.
To increase vocational educators' awareness of various school and community resources which can assist disadvantaged persons.
To increase vocational educators' ability to evaluate the personal, social, academic, and vocational development of disadvantaged persons.
To assist vocational educators in evaluating the effectiveness of their efforts in serving the disadvantaged.

Workshops - Inservice Training for Industrial Arts Teachers (Summer, 1971) - Florida State University
Objective: To acquaint teachers with curriculum materials and processes needed to initiate and implement IACP (Industrial Arts Curriculum Project) in the areas

of construction and manufacturing in secondary classrooms.

Inservice Training for Industrial Arts Teachers (All levels) - Florida Technological University

Objectives: To enable them to teach about the world of work at the junior high level.
To enable them to develop the high school students' knowledge about vocational opportunities and techniques in securing positions.

Inservice Training for Industrial Arts Teachers (Secondary) - Florida State University

Objective: To provide inservice industrial arts teachers with opportunities to learn how to initiate programs in the innovative curriculum programs in Industrial Arts - American Industry and Industrial Arts Curriculum Project.

F. INTRODUCTORY VOCATIONAL

I Conference on Vocational Guidance - University of South Florida

Objectives: To improve relationships between vocational and guidance personnel and the services and programs they provide for young people.
To deal with potentials and problems related to the new proposed occupational specialist for the counties in Florida.

EDBE 405 - Principles of Business Vocational Education - Florida Technological University

Objectives: To understand the historical development of vocational education.
To understand the historical development of vocational business education.
To become acquainted with programs in office education receiving federal support.
To identify the pros and cons of various programs offered in public schools in vocational business education.
To develop a basic philosophy of vocational education.
To acquire an understanding of the role of the community in vocational education.

To acquire an understanding of the function and importance of an advisory committee in vocational education.
To understand the role of the teacher, coordinator, and director of vocational education programs.
To become acquainted with congressional action as it has affected vocational education.

EDV 302 - Principles of Vocational Education - University of Florida
Objectives: To prepare students to develop a philosophy and objectives of vocational education based upon our society and needs of people.
To inform on how vocational education fits into total program.

EDV 325 - Introduction to Vocational Education - University of West Florida
Objectives: To learn basic principles of vocational education.
To inform concerning importance of education for work in our society.

VE 406 - Principles of Vocational Education - Florida State University
Objectives: To inform concerning laws regulating vocational education.
To inform concerning principles of administration at national, state, and local levels.
To inform concerning state objectives, programs, and plans.

VED 643 & 443 - Principles of Vocational Education - Florida Atlantic University
Objectives: To perceive the role of vocational education in the total school program.
To determine the need for vocational guidance.
To assess the importance of vocational guidance.

2 Supervised Field Experience for Vocational Personnel - University of South Florida
Objective: To refine the college training and counseling competency of adult and vocational counselors/teachers through practical experience.

Symposium on Vocational-Technical Education at Florida
Technological University (end of 2/71 - 2 days) - Florida Technological University
Objectives: To develop a skeleton program for vocational-technical education at FTU.
To determine the appropriate steps in the development of a preservice and inservice vocational education program.

PI Development of a New Program at Florida Technological University for Vocational Teachers - Florida Technological University
Objective: To train preservice and inservice teachers in vocational and technical occupations.

II. DEVELOPMENT OF NEW CONCEPT OF ROLE AND FUNCTION OF COUNSELORS

I New Model for Counselor Training (9/71) - Florida State University
Objectives: To develop a realistic counselor training program beginning at the junior level.
To develop more effective teaching and training methods for counselors.
To clarify the role of the counselor.

Seminar in Counseling the Disadvantaged - University of Florida
Objectives: To understand special problems and needs of the disadvantaged - all ages.
To explore new strategies for meeting the counseling needs of the disadvantaged.
To fuse theory and practice.

2 Development of a New Program for Counselor Education - Florida Technological University
Objectives: To develop a prototype counselor education program containing the following identifiable components: (a) vocational-technical survey variables and academic survey variables; (b) individualized analysis with correlations to vocational, technical, and academic objectives.
To develop counseling and teaching strategies and appropriate media for disseminating vocational-technical and academic data relevant to the individual at elementary and secondary levels.

To develop a program for evaluation containing statistical analysis, feedback, and dissemination components which are deemed applicable and appropriate by authorities in the field of counselor education.

Investigation of Ways to Come into Rational Contact with Students - University of Florida

Florida A & M University
Objective: To have role of counselor be one of a resource person for other school personnel.

APPENDIX D

GUIDELINES FOR PROVIDING ADEQUATE GUIDANCE SERVICES
(HOUSE BILL 3898)

1. Each school district shall develop a plan for providing adequate guidance services for students in grades K-12.

2. Adequate guidance services are tentatively defined as level one and level two guidance standards as established in the *Proposed Accreditation Standards for Florida Schools, 1969-70*.

3. Each school district shall review and evaluate its guidance services in comparison to level one and level two of the proposed accreditation standards.

4. The school district shall develop a plan for meeting level one and level two standards by September 1, 1974. This plan shall include the following:

    a. A description of present guidance services in relation to each level one and level two standard of the proposed guidance accreditation standards.

    b. A statement of the unmet standards.

    c. Identification of alternatives to graduate school requirements to be used by the district board in providing adequate guidance services, including, but not confined to, use of paraprofessionals, teachers, occupational specialists, parents, and representatives of business and industry.

    d. A phasing-in plan designed to meet unmet level one and level two guidance standards of the proposed accreditation standards.

    e. A time schedule for the phasing-in process including necessary budgetary considerations.

    f. A plan for identifying and assisting unemployed youth, using the following guidelines:

        (1) A plan for identifying and assisting unemployed, out-of-school youth under 19 years of age who live in the district.

(2) A method of procedure for identifying unemployed out-of-school youth under 19 years of age who live in the district. (May use present method of identifying, such as visiting teacher, adult counselors, etc.).

(3) Number of identified unemployed out-of-school youth under 19 years of age in the district:

14 - 15 years old_____
16 - 17 years old_____
18 years old_____

(4) A plan to assist identified unemployed out-of-school youth under 19 years of age to become aware of occupational opportunities. (May include present methods used in districts.)

(5) An evaluation procedure to determine the effectiveness of the proposed plan to assist identified unemployed out-of-school youth in the district.

5. Paraprofessional personnel may be utilized according to skills needed by the school districts to meet level one and level two standards of the proposed guidance accreditation standards without regard to traditional graduate school requirements. The plan should include the following:

   a. Duties to be performed.

   b. Skills the paraprofessional will need to accomplish these duties.

   c. Type of training program for paraprofessional to acquire needed skills.

   d. Performance evaluation.

   e. Estimated funds needed to meet level one and level two standards in addition to funds being expended for guidance services.

6. The district plan shall be submitted to the Director of the Division of Elementary and Secondary Education by March 1, 1971.

7. The Director of the Division of Elementary and Secondary Education, in cooperation with the Director of the Division of Vocational, Technical and Adult Education, shall approve or disapprove plans submitted by each school district no later than sixty (60) days after the date received. For plans which are disapproved, the Director of Elementary and Secondary Education shall set forth reason for disapproval and the conditions which must be met to secure approval.

COST-BENEFIT ANALYSIS OF OCCUPATIONAL TRAINING PROGRAMS

by

Marshall Harris

48/49

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INTRODUCTION

An evaluation of any kind of program, whether it exists in the private sector or the public sector, the educational domain or otherwise, must consider both costs and results. It is conceivable to achieve any objective if enough financial resources are allocated to that particular objective. However, unlimited resources are not available and, in fact, this key economic concept--scarcity of resources--is a major concern of the political and economic systems. In the private sector the quality of goods and services is evaluated through the mechanism of proxy votes in the form of dollars; the public sector uses the ballot box as one of its means of evaluation. However, within the public sector there is a need for additional techniques for evaluating the relative worth of programs competing for relatively limited resources. This need is especially pronounced when comparing similar programs having similar objectives.

Cost-benefit analysis is an example of one technique which increasingly is being applied to evaluate the relative investment value of governmental programs. Too often, appropriations for governmental programs are viewed as expenditures rather than as investments which yield returns to society at large as well as to individuals in particular. For hundreds of years businessmen have been using cost-benefit techniques for evaluating and planning investment decisions. However, only within the past decade has this form of analysis begun to emerge and develop as a criterion for public investment. It is the primary purpose of this study to evaluate the investment value of specific vocational, technical, and adult education programs in Florida in a cost-benefit format.

DESIGN, STRATEGY, AND OBJECTIVES

The design for conducting this cost-benefit analysis of twenty-two different vocational-technical education programs throughout the state followed the framework established in Figure I. The elements of costs and benefits are divided into two columns--social and private. The social costs are those costs incurred by society--Federal, State and Local funding--while the social benefits are the marginal monetary returns accruing to society as a function of the increased taxes resulting from differential earning levels of persons possessing varying skill levels.

From a private or individual perspective, two elements of cost are included. (1) Opportunity costs represent the bulk of an individual's investment in public education, while (2) private direct costs (tuition, books, supplies, etc.) are of a comparatively minor proportion.

Private benefits are the difference in earnings between that which one could receive after having had formal training and the earnings he could expect to receive if he did not possess specialized vocational or technical skills.

As seen in Figure I, two essential kinds of data are required, namely, monetary costs and monetary benefits. Since one of the underlying assumptions of this study is that there is a causal relationship between formal vocational-technical training and subsequent comparatively higher wage rates, it then follows that input-output data is needed in a format amenable to this kind of measurement. This necessitates that input-output data be captured in a program format.

Social	Private
Costs	Costs
Definition: Costs incurred either directly or indirectly by society at large for the operation of formal vocational-technical training	Definition: Costs incurred either directly or indirectly by the students for formal vocational-technical training
Elements:	Elements:
1) Total dollar amounts actually expended for providing educational programs; 2) opportunity cost of not leasing or renting facilities	1) Foregone earnings or opportunity costs of students due to attending training programs; 2) Total direct cost to student for registration, books, supplies, etc.
Benefits	Benefits
Definition: Economic welfare gained by society at large as a result of formal training	Definition: Economic welfare gained by the individual as a result of formal training
Element	Element
Local, state, and federal marginal taxes attributable to formal training	Student's marginal earnings attributable to formal training

Figure 1.--Definitions and elements of costs and benefits of training.

Recognizing that the program data required were not obtainable from State level sources, personal visitations were made to each of the programs studied. To accumulate data in a uniform format the questionnaires in Tables A and B, Appendix A, were used as guidelines in gathering program cost and follow-up data. These estimated data were provided by a combination of administrators, instructors, and guidance counselors.

The statistical analysis of the accumulated data adheres closely to the Figure I design with the products being cost-benefit ratios and rates of return for each program studied. These ratios and returns yield answers to the following objectives: (1) What average investment rate of return can persons who acquire employable skill levels in specific training programs expect if they enter the same or related employment field for which they were trained? and, (2) What average investment rate of return can society expect to receive as a result of providing the specific programs in (1) above?

The reader is advised to note that only the investment aspect of the programs under investigation is to be analyzed. Economists usually separate the effects of education into two distinct categories. First, there is a producer's component or investment aspect. This component involves the acquisition of knowledge and skills which are to be employed at a later date to increase the productive capability of the individual, thereby enhancing overall economic productivity and growth. Second, there is a consumption aspect of education which renders enjoyment and satisfaction to the individual involved in the educational process. The investment and consumption effects, respectively, can be characterized as being means to an end and an end in itself. Also included under the rubric of the consumption aspect of education are what has been referred to as "psychic returns." These are intangible feelings which promote positive attitudes in a person. This psychological phenomenon was found to be prevalent among the reasons for, and results of, attending vocational training programs. Especially noteworthy among adult programs, the psychological development of students was described by one guidance counselor as "one of the major reasons for enrollment." Most of the adults alluded to by this counselor had been out of the labor market for an extended period of time and usually had enrolled in comparatively short courses.

The investment component of education is not unlike the traditional business investment models whereby resources are invested in physical capital such as plants and machinery. What is comparatively new, however, is the concept that human beings are a form of capital which contribute to economic growth. Several research studies have indicated that increased knowledge and skills of the labor force (human capital) have significantly contributed to economic growth.

NEED FOR STUDY

That there exists a high priority need for cost-benefit type input-output analysis of vocational, technical and adult education programs has been reported and recommended by several agencies and parties as follows:

1. The Special Vocational Education Subcommittee of the Florida House of Representatives recommended in a report in March, 1970, that: (a) output information should be emphasized as part of a total information system; (b) an analysis of course and program productivity should be developed to provide essential data for divisional management, department-wide use, and legislative decision making; and (c) PPBS should be developed for all vocational education (integral components of PPBS are analytical techniques such as cost-benefit analysis).
2. A research report, Cost-Effectiveness Analysis of Vocational-Technical Education Programs, submitted to the Division of Vocational, Technical and Adult Education in June, 1968, advanced several empirical, methodological, and theoretical conclusions relative to cost-effectiveness analysis including: (a) "The applicability of cost-effectiveness analysis in the evaluation of vocational-technical education has been effectively argued. Since it functions at the marginal level it

has considerable economic merit, and (b) . . . cost-effectiveness analysis can become a tool in manpower planning."

3. Part I--Continuing Administrative Provisions of the Florida State Plan for the Administration of Vocational Education Under the Vocational Amendments of 1968 states that "Appropriate measures, devices, and procedures, yielding both quantitative and qualitative information, will be used. . . in evaluating the effectiveness of programs . . . ." The Plan further declares that in determining allocation for expenditure by local educational agencies, among other criteria, consideration shall by given to the results of evaluation of local vocational education programs and services, including placement. Additional justification for cost-effectiveness type evaluation analysis is affirmed in this document when criteria for determining the relative priority for considering local funding for expanding, maintaining or improving vocational education programs and services are outlined. Part III--Annual Program Plan Provision, 1970-71, of The Florida State Plan for the Administration of Vocational Education indicates that cost-effectiveness models are needed by vocational educators in determining cost-effectiveness of local programs to aid in program planning and budgeting.

4. In a recent report to the State Department of Education Research and Development Council the Division of Vocational,

Technical and Adult Education listed one of its high priority objectives as cost-effectiveness analysis studies.

5. A recent report prepared by a Florida Legislative staff member emphasized the increasing demands for educational accountability and the need to develop and utilize measures of output which can then be correlated with dollar indices of inputs.
6. The recommendations of the Florida State Advisory Council on Vocational and Technical Education for 1969-1970 assert that "cost-effectiveness studies are needed as a basis for evaluation of programs."

DEFINITION OF TERMS

Since definitions of words sometimes have unique disciplinary connotations which directly affect the contextual interpretation of any study, the following definitions are used uniformly in this evaluative study.

Alternatives.--Possible means of achieving objectives. Alternatives are evaluated in terms of costs as related to outputs. Additional consideration includes the time required for implementing the alternative and the uncertainties inherent in selecting any one alternative. For example, the Cost Benefit Planning Model presented later in this study incorporates the cost of alternatives (private sector, etc.) for achieving the same objectives as traditional public sector education.

Benefits.--The economic benefits of vocational-technical education may be defined as the change in economic welfare of society and the individual caused by education. Since education is multifaceted in terms of its benefits, with many facets avoiding measurement by a single quantitative index, earnings are used as proximate measures of one benefit of education, namely, the economic investment value benefit.

Budgeting.--The evaluation, selection, and translation of the proposed programs into a financial plan. Traditionally, budgeting in Florida has consisted of a mixed format of functions and objects where functions are exemplified by items such as administration, instruction, and instructional support, and objects are characterized by elements such as salaries, travel, and supplies. The delineation of costs of a particular program under the traditional budgeting system has been extremely difficult. In contrast, the Florida Legislature has mandated the adoption and implementation of program budgets. This budgetary approach concentrates on programs and their outputs as the basis of displaying financial plans.

Completion.--A student who departs from a program because he (a) fulfills prescribed time and competency requirements, and/or (b) obtains an employable skill.

Cost-Benefit Analysis.--An analytical, economic approach for assessing and evaluating the investment value of programs. The essence of this approach requires a comparison of economic costs and economic benefits as reflected via the price mechanism through the working of the market forces of supply and demand. The ultimate objective is to derive an annualized stream of monetary costs and benefits which is discounted to present value where costs and benefits then can be compared in the form of a Cost-Benefit Ratio. The smaller this ratio, the more worthy is the investment. Also, the smaller this ratio, the greater the rate of return (ROR). See also social rate of return (SROR) and private rate of return (PROR).

The differences between cost-benefit and cost-effectiveness are mixed in the literature and any distinctions will not be pressed here. However, for the sake of uniformity, cost-benefit will be used throughout this study.

Economic Efficiency--That mix of factors of production (resources, activities, programs, etc.) which results in maximum outputs, benefits, or utility for a given cost; alternatively, it represents the minimum cost at which a specified level of output can be maintained.

Full-Time Equivalent (FTE).--Eight hundred and ten (810) contact hours comprise 1 FTE. This is based on 5 hours of instruction per day times 180 days, less a 10 per cent absentee and withdrawal factor or: (5 x 180) - 90 = 810.

Human Capital.--The productive knowledge, skills, and talent embodied in human beings resulting from educational participation. Human capital is measured indirectly in terms of the value (price multiplied by quantity) of goods and services produced. Human capital can be compared to physical capital (see also physical capital) in that both are factors of production upon which profitability and economic growth are dependent.

Input-Output Analysis.--A quantitative technique for contrasting factors of production (men, material, and capital inputs) with the products (outputs in the form of increased skill levels commanding higher employment wages). Cost-benefit analysis is a type of input-output analysis.

Marginal Product.--The extra product or output added by one extra unit of that factor with other factors being held constant.

Marginal Returns.--The Extra dollars received in the form of increased earnings (or taxes) resulting from the investment of time and money in a training program.

Opportunity Cost.--Those returns foregone as a result of the commitment of resources to a given course of action as opposed to an alternative course.

Private Direct Cost.--The dollar amount that an individual invests in a training program in the form of tuition, books, and supplies.

Private Opportunity Cost.--The amount of earnings an individual foregoes as a result of attending school rather than being employed in the labor market. For purposes of this report, also synonymous with private indirect cost.

Private Rate of Return (PROR).--The annual percentage yield that an individual receives on the time and money that he invests in a training program. The amount of time he allocates to training is computed as an opportunity cost to the individual whereas dollars actually are expended for private direct costs (tuition, books, supplies, etc.)

Physical Capital.--Goods such as machinery and equipment produced by the economic system itself to be used for further production. (See also contrast with Human Capital.)

Social Direct Cost.--The dollar amount that federal, state, and local governmental agencies invest in a training program.

Social Opportunity Cost.--The dollar cost that society foregoes as a result of investing in one course of action as opposed to investing in alternatives. For purposes of this report, also synonymous with social indirect cost.

Social Rate of Return (SROR).--The annual percentage yield that society--federal, state and local governments--receive on the investment that it makes for training a person. Receipt of this return is from marginal sales tax, marginal ad valorem tax, and marginal federal income tax.

EVALUATION STRATEGY

As stated previously, a cost-benefit analysis of vocational-technical education programs requires at least two essential kinds of data: monetary costs (inputs), and monetary benefits (outputs).

On the input or cost side, data required are financial costs for program operation. These dollar inputs must be obtainable, or at least convertible, to a format which depicts the total actual cost of operating a given program. As reported in last year's State-Wide Evaluation of Vocational-Technical Education,[1] Florida's public school accounting system is oriented toward functions and objects of expenditure rather than toward training program objectives or outputs. Such an accounting structure is not amenable to cost-benefit analysis. Thus, it became incumbent upon this investigator to derive the best estimates of program costs possible. One possible source was to utilize the course cost estimates of vocational, technical, and adult training developed by the Division of Vocational, Technical, and Adult Education and the Division of Community colleges pursuant to 1970 legislation. Resulting from a series of communications and meetings between state level personnel and local administrators, these costs represent an estimated state-wide average cost per FTE (1 FTE = 810 contact hours) based upon a stated optimal pupil-teacher ratio for the operation of some 230 identified programs. Since state-wide average costs may not accurately reflect the individual cost characteristics of specific programs, these estimates were used in this evaluation only when individual program estimates could not be ascertained from interviews and/or questionnaires to administrators and instructors. This often resulted from complete lack of knowledge on the part of both the instructor and/or the administrator about program costs.

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[1] *Vocational-Technical Education in Human Resource Development in Florida: A State-Wide Evaluation*, Richard H. P. Kraft, (1970).

On the output or benefit side, the essential data needed are information about the status of the products of each program, namely, students who have acquired employable skills. Follow-up data currently available at the state level are primarily those which fulfill the requirements of federal reporting. These formats were found to be of a unique kind, i.e., pertaining to Office of Education (O.E.) codes which are, in effect, groupings of several programs. Figures 2 and 3 are samples of this Follow-up Report for the whole state. Note the large percentage reported as "Status Unknown" relative to "Completions." Besides this indigenous criticism of these reports, exogenous criticisms include the omission of students who leave a program before actual completion of the course with employable skills, and the wage and salary characteristics of those leaving the programs. (The first exogenous remark is recognized by the Division of Vocational, Technical and Adult Eduation and corrective measures are being taken.)

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DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

BUDGET BUREAU NO. 51-R0841
APPROVAL EXPIRES. 3/31/71

FOLLOW-UP OF PROGRAM COMPLETIONS IN SECONDARY AND POSTSECONDARY VOCATIONAL EDUCATION PROGRAMS

☒ SECONDARY ☐ POSTSECONDARY

Read instructions on reverse before completing this form

STATE/OUTLYING AREA: FLORIDA

DATE PREPARED: January 6, 1971

FISCAL YEAR ENDING: June 30, 19

REPORT DUE: December 1, 1970

AREAS OF EMPLOYMENT 1	COMPLETIONS 2	STATUS UNKNOWN 3	NUMBER KNOWN TO BE NOT AVAILABLE FOR PLACEMENT 4	NUMBER KNOWN TO BE CONTINUING EDUCATION AT HIGHER LEVEL 5	NUMBER KNOWN TO HAVE BEEN AVAILABLE FOR PLACEMENT 6	NUMBER KNOWN TO HAVE BEEN EMPLOYED FULL-TIME IN FIELD TRAINED OR RELATED FIELD 7	NUMBER KNOWN TO BE UNEMPLOYED 8
1. CONSTRUCTION AND MAINTENANCE	1728	752	522	386	454	345	36
2. HEALTH	258	110	90	68	58	41	8
3. TRANSPORTATION	2426	1021	721	436	684	566	48
4. MANUFACTURING AND FABRICATION	* 2303	1361	654	522	288	225	9
5. SERVICE	2429	1104	719	562	606	425	77
6. RECREATION AND HOSPITALITY	334	65	152	90	117	34	20
7. MARKETING	** 6014	944	2112	1617	2958	2463	194
8. AGRICULTURE	5597	1463	3301	2902	833	524	61
9. OFFICE	5514	1653	1337	984	2524	2127	326
10. COMMUNICATIONS	952	508	252	200	192	145	22

SIGNATURE (State Director)

OE FORM 3139, 6/70 REPLACES OE FORM 4045, 2/69, WHICH IS OBSOLETE

* Includes 1,085 Mechanics Diversified, OE Code 17.9900 and Drafting and design, OE Code 16.0699.
** Includes 3,020 Distributive Education, OE Code 04.9900.
Note: 11,859 completions in Useful Homemaking, OE Code 09.01, not included.

DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
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AREAS OF EMPLOYMENT 1	COMPLETIONS 2	STATUS UNKNOWN 3	NUMBER KNOWN TO BE NOT AVAILABLE FOR PLACEMENT 4	NUMBER KNOWN TO BE CONTINUING EDUCATION AT HIGHER LEVEL 5	NUMBER KNOWN TO HAVE BEEN AVAILABLE FOR PLACEMENT 6	NUMBER KNOWN TO HAVE BEEN EMPLOYED FULL-TIME IN FIELD TRAINED OR RELATED FIELD 7	NUMBER KNOWN TO BE UNEMPLOYED 8
1. CONSTRUCTION AND MAINTENANCE	1242	848	88	56	306	272	31
2. HEALTH	1829	140	76	36	1613	1511	68
3. TRANSPORTATION	1563	249	304	218	1010	869	141
4. MANUFACTURING AND FABRICATION	* 1179	468	130	83	581	322	254
5. SERVICE	1345	869	126	41	350	325	21
6. RECREATION AND HOSPITALITY	825	824			1	1	
7. MARKETING	** 2685	2480	43	25	162	121	21
8. AGRICULTURE	294	139	131	129	24	2	2
9. OFFICE	5737	3485	443	381	1809	1705	104
10. COMMUNICATIONS	1207	713	53	52	441	345	92

SIGNATURE (State Director)

OE FORM 3139, 6/70 REPLACES OE FORM 4045, 2/69, WHICH IS OBSOLETE

* Includes 692 Eng. Technology, OE Code 16.0199, Drafting and design, OE Code 16.0699, and Mechanics diversified, OE Code 17.9900.

** Includes 68 Distributive Education, OE Code 04.9900.

[illegible] completions in Useful Homemaking, OE Code 09.01, not included.

Further detailed output data retrievable from state level sources are the number of completions for every program offered in the state. However, these data also fall short of the requirements of this study in that placement, follow-up, and wage levels are not included.

Of the sources of follow-up data available at the state level, the Agriculture follow-up reports were found to be the most inclusive relative to conveying a picture of what agricultural students do after they leave their respective programs. Again, these data could not be utilized in this study because of the lack of wage and salary information. The state summary of this report is presented in Table E, Appendix A and additional comments are given in the Findings and Conclusion section.

Recognizing that the data requirements for a cost-benefit analysis of a selection of vocational-technical education programs could not be obtained from state level sources, it was decided personally to visit some twenty-five programs throughout the state and to mail the questionnaires in Tables A and B, Appendix A, to twenty additional programs. Personal interviews with administrators and instructors were conducted using these same questionnaires as guidelines.

At the outset of each visitation and in the cover letter for the mailed questionnaires it was made explicitly clear that the cost and follow-up data were estimates. Therefore, the reported program costs cannot be asserted to be better than those assembled pursuant to 1970 legislation. However, it was evident from preliminary investigations that wide cost divergencies existed between similar programs offered in different locations. Individual program data such as that gathered by visitations and program directed questionnaires accounts for these cost differentials while the average state-wide cost estimates do not.

METHODOLOGY

The cost and benefit data gathered via the questionnaires in Tables A and B, Appendix A, form the basic input elements for computational treatment. These data will be explicated here relative to their analysis in a format which follows the detailed presentation shown in Figures 4 through 7.

Figure 4: Estimated social cost per employed person

The first order of analysis shown in this figure are estimates for the total annual social costs for operating each training program (Column 1). Estimates of total annual cost of operation are ascertained for each program from the questionnaire in Table A, Appendix A. While the derivation of most of these costs are evident from the elements of the questionnaire, there are two notable exceptions. Under the heading of "Other Costs" the elements of general administrative and support overhead had to be allocated to each program. This is effected by either (a) inserting 20 per cent of the total cost (a figure which is congruent with Department of Education findings and other studies), or (b) actually calculating the administrative and supportive overhead (library, guidance, etc.) for the whole school and pro-rating to each program on the basis of the proportion of FTE in that particular program to total FTE enrollment. Another exception is

Secondary	Post-Secondary	Course	1 Total Annual Cost (Includes Facility)	2 Cost/FTE Per Year (810 Hrs.)	3 Scheduled Course Length To Completion (Contact Hrs.)	4 Actual Average Training Length	5 Average Social Cost Per Employable Person
X		Service Station Attendant (Special Needs)	Statewide Est.	(22)[a] 1,960	540	400	968
	X	Electronic Data Processing Technology	156,850	(75) 2,090	1,215	900	2,322
X		Child Care Services	27,400	(21) 1,340	540	540	827
	X	Hotel-Motel Management	36,400	(40) 910	1,215	800	674
X		Auto Mechanic	33,000	(22) 1,500	1,080	1,080	2,000
	X	Auto Mechanic	107,000	(60) 1,785	1,080	1,900	1,983
X		Welding (Industrial)	Statewide Est.	2,100	600	500	1,037
	X	Machine Shop	37,000	(15) 2,467	1,080	900	2,437
	X	Carpentry-Cabinetmaking	21,500	(15) 1,433	1,620	1,200	2,123
	X	Electronics	35,000	(31) 1,130	1,300	1,000	1,395
	X	Business Machine Repair	13,200	(15) 880	1,080	1,080	1,173
X		Farm Machinery	17,370	(12) 1,447	1,080	1,080	1,447
	X	Cosmetology	25,000	(22) 1,135	1,200	1,200	1,681
	X	Aircraft (A & P)	116,800	(47) 2,485	2,500	2,400	7,363
	X	Graphic Arts	27,125	(18) 1,500	1,080	700	1,296
	X	Air-Conditioning, Heating & Refrigeration	Statewide Est.	(35) 1,540	1,080	1,080	2,053
X		Dental Assistant	Statewide Est.	2,380	1,050	1,050	3,085
	X	Air-Conditioning, Heating & Refrigeration	156,260	(130) 1,200	1,080	1,080	1,600
	X	Industrial Electricity	21,000	(20) 1,050	1,620	1,200	2,074
	X	Cosmetology	32,550	(25) 1,302	1,200	1,200	1,928
	X	Licensed Practical Nurse	18,700	(16) 1,168	1,250	1,250	1,802
X		Horticulture	25,400	(20) 1,270	1,080	1,080	1,693

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[a] *Reported number of FTE.*

Figure 4.--Estimated social cost per employed person.

inclusion of an estimated dollar cost for physical facilities. This is accomplished by multiplying the reported number of square feet for each program by an estimated lease-rental amount for the same kind of facility in approximately the same geographical locale. The rationale for such treatment relies on the economic opportunity cost concept which suggests that if these facilities were not used for the given training program, then they could be leased or rented by the school board or junior college board of trustees. Annual lease-rental dollar rates were obtained from a study conducted by the Department of Commerce (see Table C, Appendix A).

Column 2 depicts the annual cost of providing training to one Full Time Equivalent (FTE) student. Dividing the total annual operating cost by the reported number of FTE currently enrolled yields this figure.

Column 3 is merely the scheduled course length to completion stated in number of contact hours (1 FTE = 810 contact hours).

Column 4 is the average actual training length of students.

Column 5 is calculated by the following formula:

$$C = \frac{L}{810} Y$$

where:

C = total average social cost per employable person;

L = total average training length per student (Column 4);

810 = number of contact hours for a full time equivalent (FTE) student per year; and

Y = cost per FTE per year (Column 2).

Figure 5: Estimated private costs per employed person

The amount of money an individual student invests in a given training program is a function of two factors, namely, direct costs incurred for registration, books, supplies, uniforms, etc., and foregone earnings or opportunity costs. Private direct costs are obtained from the questionnaire in Table A, Appendix A, and adjusted for actual training length. Opportunity costs are computed using the formula:

$$O_T = (L)\ (1.33)\ (O_H)$$

where:

O_T = total average opportunity costs;

L = actual average training length; and

O_H = opportunity cost per hour.

L is inflated by a factor of 1.33 to convert an average six-hour training day into an average eight-hour working day.[1] Applying an opportunity wage rate O_H which approximates the foregone earnings characteristics of students in each program produces O_H. The assignment of opportunity wage rates is based on the folowing:

---

[1] *Some training days are less than six hours. When this is true, then the opportunity cost is biased downward. Other things being equal, this would lower the private rate of return (PROR).*

Secondary	Post-Secondary	Course	Private Direct Cost	Average Opportunity Cost		Total Average Private Cost
X		Service Station Attendant	10	(1.00)[a]	532	542
	X	Electronic Data Processing Technologist	540	(1.98)	2,370	2,910
X		Child Care Services	10	(1.00)	718	728
	X	Hotel-Motel Management	500	(1.98)	2,107	2,607
X		Auto Mechanic	15	(1.70)	2,441	2,456
	X	Auto Mechanic	100	(1.98)	2,370	2,470
X		Welding (Industrial)	90	(1.70)	1,131	1,221
	X	Machine Shop	150	(1.98)	2,370	2,520
	X	Carpentry-Cabinetmaking	75	(1.98)	3,160	3,235
	X	Electronics	175	(1.98)	2,633	2,808
	X	Business Machine Repair	50	(1.98)	2,844	2,894
X		Farm Machinery	25	(1.70)	2,441	2,466
	X	Cosmetology	170	(1.70)	2,713	2,883
	X	Aircraft (Airframe & Power Plant)	225	(1.98)	6,320	6,545
	X	Graphic Arts	40	(1.98)	1,843	1,883
	X	Air-Conditioning, Heating & Refrigeration	150	(1.98)	2,844	2,994
X		Dental Assistant	150	(1.43)	1,997	2,147
	X	Air-Conditioning, Heating & Refrigeration	120	(1.98)	2,844	2,964
	X	Industrial Electricity	122	(1.98)	4,213	4,335
	X	Cosmetology	200	(1.70)	2,713	2,913
	X	Licensed Practical Nurse	150	(1.70)	2,820	2,970
X		Horticulture	11	(1.70)	2,844	2,855

[a] *Opportunity Hourly Wage Rates*

Figure 5.--Estimated private costs per employed person.

OPPORTUNITY WAGE RATES

Student Characteristics	Wage Rates
Male:	
Post-Secondary	1.98 per hour
Secondary	1.70 per hour
Female:	
Post-Secondary	1.70 per hour
Secondary	1.43 per hour
Disadvantaged:	1.00 per hour

The data in the above table emanate from a statistical analysis of a survey of Entry Level Wages conducted for this investigator by the Florida Department of Commerce on December 7, 1970. The survey and analysis of these data appear in Table D, Appendix A.

Figure 6: Rates of return to individuals

Actual entry level wage rates and anticipated third year wage rates are the foundation for calculation of individual rates of return. These wage rate data are obtained from the questionnaire in Table B, Appendix A. Since the increment between entry level wages and third year wage rates is large compared to the total labor force average of 5 to 8 per cent salary increases per year,[1] the statistical mean of the entry level

---

[1] *The U.S. Department of Labor, Bureau of Labor Statistics reports in Bulletin 1578-87 "Wage and Related Benefits - 85 Metropolitan Areas," that: Wage increases in Miami from 1967 to 1968 ranged from 4.1 to 9.6 per cent and Tampa-St. Petersburg had an increase rate from 2.3 to 8.1 per cent in the same time period.*

Secondary	Post-Secondary	Program	Wage Rates		2nd Year Annual Earnings[a]	2nd Year. Earnings Discounted at 6%	Est. Earnings Without Training	Marginal Benefits	Private	
			Entry	3rd Yr.					C/B Ratio	PROR (%)
X		Service Station Attendant	1.50	1.75	3,390	3,187	(1.10)[b] 2,288	899	.60	166.7
	X	Electronic Data Processing Technology	3.50	5.00	8,840	8,310	(2.18) 4,534	3,776	.77	129.8
X		Child Care Services	1.45	1.75	3,328	3,128	(1.10) 2,288	840	.87	114.9
	X	Hotel-Motel Management	2.60	4.70	7,592	7,136	(2.18) 4,534	2,602	1.00	100.0
X		Auto Mechanic	2.50	3.75	6,510	6,119	(1.87) 3,889	2,230	1.10	90.9
	X	Auto Mechanic	3.00	3.75	7,030	6,608	(2.18) 4,534	2,074	1.19	84.0
X		Welding (Industrial)	2.00	3.00	5,200	4,888	(1.87) 3,889	999	1.22	81.9
	X	Machine Shop	2.70	3.50	6,448	6,061	(2.18) 4,534	1,527	1.65	60.6
	X	Carpentry-Cabinetmaking	2.50	4.00	6,760	6,354	(2.18) 4,534	1,820	1.78	56.2
	X	Electronics	2.25	4.00	6,510	6,119	(2.18) 4,534	1,585	1.78	56.2
	X	Business Machine Repair	2.25	4.00	6,510	6,119	(2.18) 4,534	1,585	1.83	54.6
X		Farm Machinery	2.00	4.00	6,240	5,866	(2.18) 4,534	1,332	1.85	54.1
	X	Cosmetology	2.00	3.50	5,720	5,377	(1.87) 3,889	1,488	1.94	51.5
	X	Aircraft (A & P)	3.00	5.00	8,320	7,821	(2.18) 4,534	3,287	1.99	50.3
	X	Graphic Arts	2.50	3.00	5,720	5,377	(2.18) 4,534	843	2.23	44.8
	X	Air-Conditioning, Heating & Refrigeration	2.75	3.50	6,240	5,866	(2.18) 4,534	1,332	2.25	44.4
X		Dental Assistant	1.75	2.50	4,430	4,164	(1.57) 3,265	899	2.39	41.8
	X	Air-Conditioning, Heating & Refrigeration	2.75	3.50	5,990	5,631	(2.18) 4,534	1,097	2.70	37.0
	X	Industrial Electricity	2.10	4.00	6,344	5,963	(2.18) 4,534	1,429	3.03	33.0
	X	Cosmetology	1.85	3.00	5,054	4,751	(1.87) 3,889	862	3.38	29.9
	X	Licensed Practical Nurse	2.10	2.30	4,784	4,497	(1.87) 3,889	608	4.89	20.4
X		Horticulture	2.00	2.25	4,430	4,164	(1.87) 3,889	275	10.38	9.6

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[a] *2 yr. wage rate x 2080.*

[b] *Hourly wage rate without training*

Figure 6.--Estimated rates of return to individuals.

and third year wage rates are used to calculate the second year annual earnings appearing in Column 2.[1]

To account for the time value of money, the second year annual earnings are discounted back to the first year using a 6 per cent discount factor. This is done so that comparisons between earnings and cost will be on comparable values of a dollar.[2]

Column 4 is an estimate of the annual earnings that an individual of the same sex and comparable age as the vocationally trained person could expect to receive if he is classified as an unskilled or semi-skilled worker. That is, this type person usually would be comparable in skills to vocationally trained persons in this study before training. Thus, the opportunity costs applied previously are used as the basis for this calculation. Because time has elapsed during the training period, it would be logical to expect that the person making $1.90 per hour last year would be earning more this year. Therefore, the foregone earning wage rates (opportunity costs) used previously have been inflated by a comparatively liberal factor of 10 per cent. When the estimated wage rate for persons without training is multiplied by 2080 work hours per year, the products are the figures in Column 4.

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[1] *Wage data are calculated before taxes. If private rates of return were computed on an after tax basis, the effect would be to lower the reported private rates of return by 10 to 15 per cent.*

[2] *The reader is referred to Otto Eckstein, "A Survey of the Theory of Public Expenditure Criteria," in National Bureau of Economic Research, Public Finance: Needs, Sources, and Utilization, National Bureau of Economic Research for a discussion of this topic.*

Since this study is measuring marginal benefit, Column 4 is subtracted from Column 3 to get the Marginal Benefit Per Trainee (Column 5).

Column 6--Private Cost-Benefit Ratios and Private Rates of Return (PROR)--are important because they report the cost-benefit relationship of each program. The calculation is a simple division of the total average private cost (the investment made by the individual) by the marginal benefits. The cost-benefit ratio indicates the number of years it will take an individual to recoup his total investment.

Figure 7: Rates of return to society

The algorithm used to find the rates of return to society accounts for three main avenues of monetary returns to society, namely, marginal sales tax, marginal property tax, and marginal federal income tax.

Marginal sales tax figures are taken from the 1970 Optional State Sales Tax Table for a family of "3 and 4."[1] The computation is done in the following format:

Earnings	Sales Tax
Discounted Second Year Earnings (e.g., $4900)	$73.00
Less: Estimated Earnings Without Training (e.g., $3800)	61.00
Marginal Sales Tax	$12.00

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[1] *Federal Income Tax Tables, 1970.*

Secondary	Post-Secondary	Program	Marginal Sales Tax	Marginal Home Value	Marginal Property Tax	Marginal Federal Income Tax	Public Marginal Benefit	Society	
								C/B Ratio	SROR %
X		Service Station Attendent (special needs)	13	1,374	23	42	78	12.41	8.1
	X	Electronic Data Processing Technology	41	7,552	127	613	781	2.97	33.7
X		Child Care Services	13	1,256	21	32	66	12.53	8.0
	X	Hotel-Motel Management	31	5,204	88	408	527	1.28	78.1
X		Auto Mechanic	33	4,460	75	365	473	4.23	23.6
	X	Auto Mechanic	21	4,148	70	323	414	4.79	20.9
X		Welding (Industrial	12	1,998	34	177	223	4.65	21.5
	X	Machine Shop	21	3,054	51	236	308	4.62	21.7
	X	Carpentry-Cabinetmaking	21	3,640	61	283	365	5.82	17.2
	X	Electronics	21	3,170	53	244	318	4.39	22.8
	X	Business Machine Repair	21	3,170	53	244	318	3.69	27.1
X		Farm Machinery	11	2,664	45	206	262	5.52	18.1
	X	Cosmetology	23	2,976	50	251	324	5.19	19.3
	X	Aircraft (A & P)	31	6,574	111	528	670	10.99	9.1
	X	Graphic Arts	11	1,686	28	130	169	7.67	13.0
	X	Air-Conditioning, Htg. & Refrig.	11	2,664	45	206	262	7.84	12.8
X		Dental Assistant	12	1,798	30	197	239	12.90	7.8
	X	Air-Conditioning, Heating & Refrigeration	11	2,194	37	168	216	7.41	13.5
	X	Industrial Electricity	11	2,858	48	221	280	7.41	13.5
	X	Cosmetology	12	1,724	29	161	202	9.54	10.5
	X	Licensed Practical Nurse	12	1,216	21	113	146	12.34	8.1
X		Horticulture	12	550	9	67	88	19.24	5.2

Figure 7.--Estimated rates of return to society.

Marginal property tax figures are based upon an average 1970-71 County-Wide millage levy in Florida of 16.84 mills.[2] Calculation of home values use the FHA rule of thumb that one's house value should approximate twice his yearly income. Calculations, net of Florida's $5,000 Homestead Exemption, are as follows:

Net Taxable Home Value	Average Millage		Average Property Tax
[2 (V_A) - ($5000)]	[16.84)	=	X
[2(V_B) - ($5000)]	[16.84]	=	-Y
	Marginal Property Tax	=	Z

where:

V_A = present value of the second year earnings with training;

V_B = value of estimated earnings without training;

X = average property tax after training;

Y = average property tax without training;

Z = net marginal property tax

Marginal federal income tax is computed in the same format as marginal sales tax using 1970 tax tables for three exemptions and filing a joint return.

The sum of the marginal taxes is a Public Marginal Benefit. This figure is then divided into the "Average Social Cost Per Employable Person" in Table 7, Column 5, to derive social cost-benefit ratios and social rates of return (SROR).

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[1] *State of Florida Comptroller, Department of Revenue (January, 1971).*

Recalculation of social rates of return

Figure 8 is offered to account for the effects of significantly large differences between the estimated annual cost per FTE for each program computed by this investigator and the estimated costs produced by the Division of Vocational, Technical and Adult Education pursuant to 1970 legislation.[1] While some of the differences between cost estimates arise from the differences between average statewide program cost estimates and specific program cost estimates, the major variables result from (a) differing class sizes, and (b) different equipment amortization schedules.

The pupil-teacher ratios reported in Figure 8, Column 1 (headed P:T) are those found by this investigator. These ratios are from 15 to more than 50 per cent higher than those used for state calculations. Also, the equipment amortization rates used in the state estimates are on a ten-year basis for all programs while rates used by this investigator ranged from five to twenty years.

Regardless of differences, it is sufficient to note that "Social C/B Ratios and Rates of Return" are based on the state estimated program costs (Column 6). (The C/B ratios and social rates of return will be higher and lower respectively when the state cost estimates are used rather than the estimated social costs reported in Figure 4 because the Figure 4 costs are lower.)

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[1] *The cost figures from the Division of Vocational, Technical and Adult Education were taken from a working draft; therefore, they cannot be considered official.*

	1	2	3	4	5	Society	
PROGRAM	P:T	State Estimated Cost Per FTE Per Year[1]	Average Training Length	Average Social Cost Per Employable Person	Public Marginal Benefits	C/B Ratio	SROR (%)
Aircraft (A & P)	16:1	$6,120	2400	$18,133	$670	27.06	3.7
Business Machine Repair	15:1	1,400	1080	1,866	318	5.87	17.1
Industrial Electricity	20:1	1,680	1600	3,318	280	11.85	8.4
Graphic Arts	18:1	3,459	700	2,989	169	17.69	5.7
Electronic Data Processing Technology	13:1	4,800	900	5,333	781	6.83	14.6
Hotel-Motel Management	13:1	1,820	800	1,798	527	3.41	29.3

[1] *Working draft State estimates of direct and indirect cost per FTE.*

Figure 8.--Recalculation of social rates of return for reported post-secondary program costs significantly differing from state estimates.

In the remainder of this report all computations and findings are based on the higher of state estimated costs and those estimated by this investigator unless otherwise specified.

A COST-BENEFIT PLANNING MODEL: AN EXTENSION OF THE EVALUATION METHODOLOGY

The procedures incorporated into the cost benefit analysis for evaluation purposes also can form the basis of a model for long-range planning, programming, budgeting, and evaluation. While the evaluation procedures were oriented toward what actually had transpired relative to the number of students in a given program, the estimated cost per student per year and the subsequent placement of the student into a job which required the skills he derived from the training program, a forward looking model is necessarily couched in more uncertain terms. This uncertainty perforce results from constantly changing labor market requirements, fluctuations in the wants and desires of prospective trainees, and changing technologies. Since the commencement of most planning activities first account for what has occurred in the past, the findings of the cost-benefit analysis will serve as input to the model proposed and illustrated here.

The construct and elements of the Cost-Benefit Planning Model in Figures 9 and 10 are presented in a different format than the evaluation technique. This is necessitated by the fact that long range planning must depict the intentions of a course of action over an extended time frame (5 years is average); also, the

	Year 1			... Year 5
	Optimistic	Most Likely	Pessimistic	
Social Cost				
Direct Cost/FTE/Year	$ 1,500	$ 1,670	$ 1,800	
Completion Length (Hrs.)	900	1,080	1,200	
Direct Cost/Completion	$ 1,666	2,227	2,667	
Number of Completions	600	550	500	
Total Direct Cost	$ 999,600	1,224,850	1,333,500	
Total Opportunity Cost (Based on 6% Social Opportunity Cost)	$ 59,976	73,491	80,010	
Total Social Cost	$1,059,576	$1,298,341	$1,413,510	
Private Cost				
Direct Cost	$ 75	100	125	
Opportunity Cost	2,035	2,844	3,479	
Private Cost/Completion	$ 2,110	2,944	3,604	
Private Benefit/Completion				
Probability of Employment in same or Related Field (%) (includes substitutability)	1.0	.95	.86	
Average Wage Rate/Hour	2.75	2.75	2.75	
Hours Work/Year	2,080	2,080	2,080	
Training Related Annual Salary	$ 5,720	5,434	4,919	
Less Est. Salary Without Training	$ 4,534	4,534	4,534	
Private Marginal Benefit of Training	$ 1,186	900	385	
Social Benefit				
Marginal Sales Tax	$ 11	11	0	
Marginal Property Tax	$ 40	30	13	
Marginal Fed. Income Tax	$ 183	137	64	
Social Marginal Benefit	$ 234	178	77	
Number of Completions	600	550	500	
Total Social Benefit	$ 140,400	107,900	38,500	
Cost-Benefit Relationship				
Social Cost-Benefit Ratio	7.34	12.35	27.51	
Social Rate of Return (%)	13.30	8.10	3.60	
Private Cost-Benefit Ratio	1.77	3.27	9.36	
Private Rate of Return (%)	56.40	30.50	10.70	
Alternative Pricing				
1. Private Contract	$			
2. On-the-Job Subsidies	$			
3. Other	$			

Figure 9.--Cost-Benefit Planning Model Auto Mechanics Program.

	Year 1			... Year 5
	Optimistic	Most Likely	Pessimistic	
Social Cost				
Direct Cost/FTE/Year	$ 1,190	1,400	1,610	
Completion Length (Hrs.)	180	180	180	
Direct Cost/Completion	$ 264	311	358	
Number of Completions	275	250	225	
Total Direct Cost	$72,600	$77,750	$80,550	
Total Opportunity Cost (Based on 6% Social Opportunity Cost)	$ 4,356	4,665	4,833	
Total Social Cost	$76,956	$82,415	$85,383	
Private Cost				
Direct Cost	10	15	20	
Opportunity Cost	407	407	407	
Private Cost/Completion	417	422	437	
Private Benefit/Completion				
Probability of Employment in same or related field (%) (includes substitutability)	1.0	.85	.70	
Average Wage Rate/Hour	2.25	2.25	2.25	
Hours/Work Year	2080	2080	2080	
Training Related Annual Salary	$ 4,680	3,978	3,276	
Less Est. Salary Without Training	$3,536	3,536	3,536	
Private Marginal Benefit of Training	$ 1,144	442	0	
Social Benefit				
Marginal Sales Tax	$ 12	0	0	
Marginal Property Tax	$ 39	15	0	
Marginal Fed. Income Tax	$ 222	99	0	
Social Marginal Benefit	$ 273	114	0	
Number of Completions	275	250	225	
Total Social Benefit	$75,075	$28,500	$ 0	
Cost-Benefit Relationship				
Social Cost-Benefit Ratio	1.03	2.89	0	
Social Rate of Return (%)	97.10	34.60	0	
Private Cost-Benefit Ratio	.36	.95	0	
Private Rate of Return (%)	277.80	105.30	0	
Alternative Pricing				
1. Private Contract	$			
2. On-the-Job Subsidies	$			
3. Other	$			

Figure 10.--Cost-Benefit Planning Model Auto Part Clerk Program.

introduction of three levels of forecasting--optimistic, pessimistic, and most likely--for each year enables a range of estimates of the variables associated with each program.

Another important variable added is the probability of one becoming employed in the same or related field for which one undertook training. Representing a synthesis of employment demand data derived from the State Department of Commerce, skill surveys, and the U.S. Bureau of Labor Statistics, this figure also must account for the substitutability features of each occupational skill. For example, watchmaking has a high substitutability coefficient relative to fine instrument and meter repair and maintenance. Thus, if the demand for watchmakers is comparatively low, educational planners also should analyze the demand for fine instrument and meter repair and maintenance to derive a final demand.

If labor supply and demand are accepted as a basis for determining the probability of becoming employed in the same or related field as suggested above, then the derivation of this probability ideally should be available from sources familiar with this kind of data. The Department of Commerce, Bureau of Employment, is one logical source. One kind of data released by this agency on a semi-annual basis are the labor supply and demand conditions for over 200 occupations (see sample of this report in Table F, Appendix A). When these data--reported on an A to E scale, where A is the highest demand and E is oversupply and thus no demand--are compared to skill surveys conducted by the Department of Education, employment assessments from instructors and employers, and Area supply and demand surveys, the findings often are contradictory. For example, from recent skill surveys, the Division of Vocational, Technical and Adult Education reports that approximately 1300 dental assistants are needed during 1970-71 for vacancies, replacements and new positions; over 800 air conditioning, heating and refrigeration personnel are needed, and data processing is listed at 1740. In contrast, when the Department of Commerce A to E scale is weighted and averaged, the probability for employment in each of these occupations are respectively reported as .58, .75, and .22 (see Table G, Appendix A for the calculation of these probabilities).

Another crucial extension of the evaluation model is the inclusion of a range of alternative training costs for each program. These alternative training costs can be ascertained in various forms from private enterprise and each should be listed in a manner which is comparable to either the social cost per completion or the total social program cost. The model as given assumes that no changes would occur in private costs and private benefits as a result of using the alternative costs rather than the traditional public sector program operation costs.

INTERPRETATION OF FINDINGS

The reader is cautioned not to use the private and social rates of returns reported herein as stand alone policy or decision making tools. A cost-benefit analysis evaluation such as this only accounts for the monetary costs and benefits directly traceable to a given program. There are, however, a whole host of external monetary benefits (external economies and spillovers) and direct social, cultural, moral, and political benefits of vocational-technical education which are not included in the cost-benefit ratios or rates of return (ROR).

Another reason for using caution in applying the findings of this study is that historical data (the reported rates of return are historical) should be used only for projection after adjustments have been made for future technological changes, and labor supply and demand changes. For example, the employment demand in the future may significantly decline for what in the past was considered a high payoff program. This phenomenon, if not recognized in planning decisions, could result in training for low employment demand occupations, thereby obviating one of the principal reasons for the existence of the program.

Additionally, the social rates of return reported in Figures 7 and 8 differ significantly. These results suggest that rates of return should not be thought of as fixed but, rather, that rates of return, as calculated here, are estimates which approximate a range.

These cost-benefit data concern only a small subset of the total number and kind of vocational-technical programs offered in Florida. Therefore, generalization of these data beyond the actual sample would be hazardous. In sum, the findings of these cost-benefit analyses should serve as one of many factors comprising the comprehensive utility function of decision-makers.

FINDINGS AND CONCLUSIONS

A. Rates of Return

1. The private rates of return from all of the programs studied are astonishingly high. Having a range of 9.6 per cent to 166.7 per cent and a mean of 65.5 per cent, these returns vastly exceed a 10 per cent physical capital rate of return, which many writers and most investors consider to be very favorable. If one considers that, from 1945 to 1965, the average stock on the New York Stock Exchange had a combined capital appretiation and dividend payout of 9.3 per cent, it is evident that the rate of return on investments in vocational-technical training is, indeed, a prudent investment decision.

2. Figure II presents a comparison of Program Social Costs per completion with social and private rates of return per completion. Of the programs studied, the mean Social Cost per completion is $2854 and the mean social and private rates of return are 14.6 per cent and 65.5 per cent respectively. These returns indicate that, on the average, society will realize a total dollar recoupment of its investment in 6.8 years while an individual can expect to recoup his total investment in about 1.5 years. If we assume the benefits from formal vocational-technical training appear in a monetary form for longer than 6.8 years, then it follows that society will realize a profit on its

Secondary	Post-Secondary	Program	Social Cost[1]	Social Rate[2] of Return %	Private Rate of Return %
	X	Aircraft (Airframe & Power Plant	$18,133	3.7	50.3
	X	Electronic Data Processing Technology	5,333	14.6	129.8
	X	Industrial Electricity	3,318	8.4	33.0
X		Dental Assisting	3,085	7.8	41.8
	X	Graphic Arts	2,989	5.7	44.8
	X	Machine Shop	2,437	21.7	60.6
	X	Carpentry-Cabinetmaking	2,123	17.2	56.2
	X	Air Conditioning, Heating & Refrigeration	2,053	12.8	44.4
X		Auto Mechanics	2,000	23.6	90.9
	X	Auto Mechanics	1,983	20.9	84.0
	X	Cosmetology	1,928	10.5	29.9
	X	Business Machines Repair	1,866	17.6	54.6
	X	Licensed Practical Nursing	1,802	8.1	20.4
	X	Hotel-Motel Management	1,798	29.3	100.0
X		Horticulture	1,693	5.2	9.6
	X	Cosmetology	1,681	19.3	51.5
X		Farm Machinery	1,447	18.1	54.1
	X	Electronics	1,395	22.8	56.2
X		Welding (Industrial)	1,037	21.5	81.9
X		Service Station Attendant	968	8.1	166.7
X		Child Care Services	827	8.0	114.9
		Mean	$2,854	14.6	65.5

[1] Higher of social cost between Figures 4 and 8.

[2] Lower of social rate of return between Figures 4 and 8.

Figure 11.--Comparison of Average Program Social Costs with Social Rates of Return and Private Rates of Return (Per Completion)

Secondary	Post-Secondary	Program	(Contact Hrs.) Average Training Length	Average Private Rates of Return %	Rank
X		Service Station Attendant	400	166.7	1
	X	Electronic Data Processing Technology	900	129.8	2
X		Child Care Services	540	114.9	3
	X	Hotel-Motel Management	800	100.0	4
X		Auto Mechanics	1080	90.0	5
	X	Auto Mechanics	900	84.0	6
X		Welding (Industrial)	500	81.9	7
	X	Machine Shop	900	60.6	8
	X	Electronics	1200	56.2	9
	X	Carpentry-Cabinetmaking	1000	56.2	10
	X	Business Machine Repair	1080	54.6	11
X		Farm Machinery	1080	54.1	12
	X	Cosmetology	1200	51.5	13
	X	Aircraft (Airframe & Power Plant)	2400	50.3	14
	X	Graphic Arts	700	44.8	15
	X	Air Conditioning, Heating & Refrigeration	1080	44.4	16
X		Dental Assisting	1050	41.8	17
	X	Industrial Electricity	1600	33.0	18
	X	Cosmetology	1200	29.9	19
	X	Licensed Practical Nursing	1250	20.4	20
X		Horticulture	1080	9.6	21
			Mean:	65.5%	

Figure 12.--Rank ordering of private rates of return (per completion)

Secondary	Post-Secondary	Program	Average Social Cost	Average Social Rates of Return %	Rank
	X	Hotel-MotelManagement	$1,798	29.3	1
X		Auto Mechanics	2,000	23.6	2
	X	Electronics	1,395	22.8	3
	X	Machine Shop	2,437	21.7	4
X		Welding (industrial)	1,037	21.5	5
	X	Auto Mechanics	1,983	20.9	6
	X	Cosmetology	1,681	19.3	7
X		Farm Machinery	1,447	18.1	8
	X	Business Machine Repair	1,866	17.6	9
	X	Carpentry-Cabinetmaking	2,123	17.2	10
	X	Electronic Data Processing Technology	5,333	14.6	11
	X	Air Conditioning, Heating & Refrigeration	2,053	12.8	12
	X	Cosmetology	1,928	10.5	13
	X	Industrial Electricity	3,318	8.4	14
	X	Licensed Practical Nursing	1,802	8.1	15
X		Service Station Attendant	968	8.1	16
X		Child Care Services	827	8.0	17
X		Dental Assisting	3,085	7.8	18
	X	Graphic Arts	2,989	5.7	19
X		Horticulture	1,693	5.2	20
	X	Aircraft (Airframe & Power Plant)	18,133	3.7	21
		Mean	$2,854	14.6	

Figure 13.--Rank ordering of social rates of return (per completion)

investment; for the individual, the marginal earnings accruing after 1.5 years are all profit.

Figure 11 further reveals that:

a. The social rate of return for the Aircraft Program--the most costly in terms of social cost--yields the lowest social rate of return; whereas its private rate of return of 50.3 per cent compares favorably with the 65.5 per cent mean of all programs studied.

b. The Electronic Data Processing Technology Program--the second most costly program in terms of social cost ($5333 per completion)--yields a 14.6 per cent social rate of return and a 129.8 per cent private rate of return.

c. The Child Care Program--the least costly program in terms of social cost($827 per completion)--yields an 8 per cent social rate of return and a 114.9 per cent private rate of return.

3. There is no significant correlation between social costs and private rates of return. This finding suggests that individuals benefit almost equally as well from high and low social cost programs. That is, private rates of return do not seem to be affected by the social cost of the program.

4. Rank ordering of the private and social rates of return for each of the programs analyzed are found in Figures 12 and 13 respectively. Private rates of return information such as contained in Figure 12 would be valuable data in the hands of guidance counselors. These data could give prospective students

an advance idea of the relative monetary payoff among programs.

Figure 12 also indicates that, on the average, the shorter the period of time a student devotes to acquiring a skill or set of employable skills, the greater is his rate of return. Contributing largely to this phenomenon are the opportunity costs which are directly related to training time and the fact that variation in the completion time of students in the same program do not appear significantly to affect beginning wage rates.

5. Figure 13 reveals that higher social cost programs generally yield lower social rates of return. However, one should not conclude that society (Florida) should invest only in lower and medium cost ($1000 - $2400) programs. This would avoid labor supply and demand requirements as promulgated in the Cost-Benefit Planning Model entirely and would render an economic disadvantage to those individuals either desiring or more capably suited to occupations requiring higher than average cost training.

It also is obvious that wage rates as expressed in the market place do not always reflect labor shortages. For example, serious labor shortages exist for Licensed Practical Nurses and Dental Assistants. Nevertheless, wage rates are still comparatively low; therefore social rates of return are pulled downward.

6. The Service Station Attendant Program which is characterized as a "Special Needs Program" yielded a very high rate of

return to the individual (166.7%) while the reported return to society is valued at 8.1 per cent. However, the societal return probably is biased downward because the study did not consider the adverse effects that presumably would have occurred if the students were not in the training program. It would seem safe to assume that many of the persons in this program otherwise would have been on welfare, or delinquent/criminal--each involving costs that society can now use for other purposes as a result of having invested in the training program.[1] Partially in the same category is the Child Care Program which yields a private rate of return of 114.9 per cent and a social rate of return of 8.0 per cent.

Stated in dollar terms, the graduate (defined as attaining employable skills) of the Service Station Attendant Program invests approximately $542, which is comprised of approximately thirteen and one-half weeks of foregone earnings and private direct costs. In return he received average annual earnings $899 greater than he would have realized had he continued at the average wage level of persons educationally and socio-economically similar to him before training.

Similarly, the graduate of the Child Care Program invests approximately $728 in training. In return his average annual earnings are $840 greater than they would have been had he remained working at the average wage level of students before training.

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[1] *After training these persons usually can be described as taxpayers rather than taxeaters.*

7. Of the programs analyzed, one-third are comprised predominantly of secondary students and two-thirds are post-secondary. The average social rate of return for secondary students approximates 13.2 per cent, while for post-secondary it is 15.2 per cent. Private rates of return are similarly close at 79.9 per cent for secondary and 58.3 per cent for post-secondary. Note that on the secondary level average private rates of return are pulled significantly upward by the Service Station Attendant Program (166.7%) and the Child Care Program (114.9%).

B. Related Findings

1. Precise program cost data are, at the present time, economically unfeasible to obtain. Student follow-up data were not found to be formalized in any type of systematic manner in any of the programs studied. However, instructors provided excellent follow-up data. In only one case out of more than twenty-five was the instructor or department head unable to report the location and salary of students who left his program during this year and last. In fact, instructors were found to be more knowledgeable about statistics of past students than were guidance counselors--even when the follow-up function was tactically located in the guidance office. One instructor even had his own follow-up forms printed by the graphic arts program. Whether instructors would be able to follow students for periods of time greater than one year was not determined from this investigation. Without clerical assistance, this writer thinks not. (It probably would

not be cost-effective to have a $10,000 per year instructor distracted from his instructional responsibilities.)

2. The variable with the largest effect on the cost of training for each completion is the class size or number of Full Time Equivalent (FTE) enrollment. The fact that the programs investigated typically had higher pupil-teacher ratios than those normally used by the State Department of Education for calculation of per pupil costs accounts for the generally lower social costs per pupil found in this study.

3. The regressive nature of Florida's sales and property tax becomes very evident when conducting a cost-benefit analysis. The progressive characteristic of the Federal Income Tax contributed significantly more proportional monetary benefits to society as a result of increased income than did the sales and property tax. If Florida had a more progressive tax structure, the societal rates of return would be substantially moved upward.

4. Table E in Appendix A is a copy of the State Summary of Follow-up of Enrollees in Agricultural Education. Also compiled by the Agricultural Section of the Division of Vocational, Technical and Adult Education are follow-up data in the same format as this report for each of the five geographical regions of the State as ennumerated in the Florida State Plan for Vocational Education. Based upon ten-year cumulative data this report has a considerably smaller percentage of students whose status is unknown as compared to Figures 2 and 3, total State Follow-up. Other noteworthy information included in this report are:

(a) the detailed breakdown of number employed full-time by occupational area within agriculture and outside of agriculture; (b) number of part-time employed; (c) number who left prior to normal completion time with marketable skills, and (d) the fact that approximately 40 per cent of the persons trained in agricultural employment entered full-time employment in non-agricultural occupations. This last phenomenon could be attributed to such factors as: (a) non-agricultural employers respect agricultural training programs and therefore actively seek their graduates; or, (b) a scarcity of agricultural jobs exist.

5. One critical finding of this study is the indication of an inherent unreliability of assessing or evaluating a given program on the basis of either costs alone or benefits alone. The two are inextricably linked and thus must be considered together when contemplating programmatic decisions.

6. While administrators, institutional directors, assistant superintendents, and principals usually were prepared to give cost data for instructors' salaries and sometimes for instructional materials and supplies, instructors were found to be more knowledgeable about estimated costs of equipment, handtools, maintenance and repair of equipment, equipment rentals and teacher travel. The number of square feet of physical facility was supplied equally as well by administrators and instructors.

7. Many students do not remain in the training program for the scheduled completion time. Rather, some leave earlier with skills sufficient for the employment desired. Since this

has significant bearing on the total social and private costs of training a person in a given skill area, it is important to note that programs composed primarily of secondary students are more likely to be attended by an individual student either near or to completion as compared to attendance time in programs consisting predominantly of post-secondary students. This suggests a combination of the following: (1) secondary students need the high school credit afforded by attending the courses to completion; (2) high school students need longer training time than post-secondary students; (3) post-secondary students are upgrading their skills; (4) post-secondary students select only aspects of training relevant to their immediate employment aspirations.

For the Cosmetology, Licensed Practical Nursing and Aircraft programs State licensing requirements mandate the number of hours of training. Thus, attendance in these programs are at or near the scheduled completion time, regardless of whether at secondary or post-secondary level.

While not an objective of this study, the amount of time one devotes to a training program has significant bearing on cost-benefit relationships. Therefore, it is suggested that further study in the form of cost-benefit analysis be directed toward comparing the economic efficiency of secondary and post-secondary programs.

SUMMARY OF RECOMMENDATIONS

1. It is recommended that development and experimentation of Program Budgeting and Cost Accounting Systems be continued and, at the earliest possible date, full implementation on a statewide basis be effected.[1]

2. It is recommended that many current financial adminstrators be retrained and additional administrators be hired in order to implement Program Budgeting and Cost Accounting Systems. It is suggested that retraining seminars and symposiums for current administrators be conducted in a systematic manner with state leadership. Additionally, institutional administrators should become more knowledgeable of the role and function that Cost-Benefit data should perform in their decision making processes.

3. It is recommended that first year follow-up studies of existing vocational, technical, and adult students be delegated to instructors. Subsequent year follow-up studies should become the responsibility of a central location--guidance office, central administrative offices, or even state level offices. These studies will be given input by instructors and direct mail outs.

4. It is recommended that a Council of Economic Advisors be formed at the state level to advise on educational policy decision. The effectuation of such a Council could aid in providing guidelines in the use of economic criteria for allocation of resources among vocational, technical, and adult education programs.

5. It is recommended that a cost-effectiveness analysis of vocational-technical education programs at the secondary and post-secondary levels be performed. The objective would be to contrast the economic efficiency of the programs.

6. It is recommended that performance contracting of vocational-technical education programs to private enterprise be investigated as an alternative to traditional public sector operations. Programs with comparatively high economic costs especially should be subjected to alternative pricing by private enterprises which possess the talent and equipment for these training programs.

7. It is recommended that the Department of Commerce furnish more accurate labor supply and demand data for principal areas of Florida to the Division of Vocational, Technical and Adult Education. Additionally, labor supply and demand data for neighboring states should be provided. Such information will greatly facilitate vocational-technical education program planning.

8. It is recommended that the findings of the Cost-Benefit Analysis of Occupational Training Programs be circulated among guidance counselors in Florida's educational system. These findings can become valuable counseling tools in terms of providing prospective students advance information about the relative monetary payoffs of vocational-technical education.

9. It is recommended that in order to decrease the margin of error resulting in the purchase of inadequate (for instructional purposes) equipment, instructors and/or other persons knowledgeable about the effectiveness of certain equipment for instruction be consulted prior to purchase.

10. It is recommended that Cost-Benefit Ratios and Social and Private Rates of Return of vocational-technical education programs be coupled with subjective evaluations to serve as input data for decision-making.

11. It is recommended that continued emphasis be given to systematic student follow-up studies at both the institutional level and the State level.

12. It is recommended that, whenever possible, evaluation procedures will link costs with outcomes or benefits.

Commendation

We commend the progress that has occurred during the 1970-71 school year relative to development and experimentation by State level administrators of Program Budgeting and Cost Accounting Systems. The Division of Community Colleges has completed a model for cost analysis and is experimentally implementing it. The Division of Vocational, Technical and Adult Education is participating in a national cost accounting project which will develop cost analyses of vocational-technical education in three counties and one junior college. The Bureau of Finance of the Department of Education currently is developing a program oriented budgeting and accounting system which is to be experimentally paralleled to existing accounting systems in selected school districts during 1971-1972.

APPENDIX A

TABLE A

Program Name ____________________

Program Length ____________________ (number of contact hours)

Estimated Total Cost to Student __________ (Include tuition, books, supplies, etc. that students must pay or purchase.)

Age range of students currently enrolled __________

Modal age of above (age at which most of students fall) __________

Estimated Annual Program Costs

Instructors' salaries __________

Instructional Materials and Supplies (Do not include supplies paid by student __________

Equipment: Estimated Total Cost __________
Estimated Useful Life __________
Estimated Cost Per Year __________

Handtool: Estimated Total Cost __________
Estimated Useful Life __________
Estimated Cost Per Year __________

Maintenance and Repair of Equipment __________

Equipment Rental __________

Teacher Travel __________

Other Costs: (Please list.) __________

Estimated Total Annual Cost __________

Estimated Number of Square Feet of Physical Facility for Program Operation, Instructors' Offices, Storage, etc. __________

Please list those courses which most students enrolled in this program take which are not included in the above program costs (for example, students in cosmetology often take bookkeeping).

TABLE B

STUDENT FOLLOW-UP DATA

1. Program Name ______

2. Number of students and date of last graduating class ______ ______

3. Number of students during preceding year who did not fully complete program but who left with sufficient skills for gainful employment in the same or related field ______

4. What was the average training time for (3) above? ______

5. Number of students in (2) and (3) who:

   A. entered training related employment locally (50 mile radius) ______
   B. entered training related employment in Florida ______
   C. entered training related employment outside Florida ______
   D. entered non-training related employment ______
   E. entered the military ______
   F. other (please indicate) ______
   G. average starting salary of (A) ______
   H. average starting salary of (B) ______
   I. average starting salary of (C) ______
   J. estimated average salary of (G), (H), and (I) after three years' experience ______

6. Employment demand for students (Circle one)

Local (50 mile radius)	Florida
Low	Low
Medium	Medium
High	High

7. Current number of Full Time Equivalent enrollment ______

TABLE C

INDUSTRY LEASE-RENTAL RATE RANGES PER ANNUM

NORTHEAST FLORIDA - JACKSONVILLE

New Buildings

Metal	$1.10
Masonry	1.25
Office	5.00 to $6.00
Warehousing	1.25

Older Buildings - 10 Years Plus

Industrial	$1.00
Warehousing	1.00
Office	4.00 to $5.00

CENTRAL FLORIDA - TAMPA

New Buildings

Metal	$1.10 to $1.15
Masonry	1.25 to 1.50
Office	5.00 to 7.00
Warehousing	1.10 to 1.25

Older Buildings - 10 Years Plus

Industrial	$1.00 to $1.30
Warehousing	1.10 to 1.30
Office	4.50 to 4.75

CENTRAL FLORIDA - ST. PETERSBURG

New Buildings

Metal	$ .90
Masonry	1.20 to $1.50
Office	3.00 to 7.00
Warehousing	.90

Older Buildings - 10 Years Plus

Industrial	$ .60 to $1.00
Warehousing	.50 to 1.00
Office	2.00 to 3.50

TABLE C.--Continued

CENTRAL FLORIDA - ORLANDO

New Buildings

Metal	$ .75 to $1.10
Masonry	.75 to 1.10
Office	5.50
Warehousing	.75 to 1.00 - 1.10

Older Buildings - 10 Years Plus

Industrial	$ .70 to $1.00
Warehousing	.70 to 1.00
Office	3.00 to 3.50

BROWARD COUNTY

New Buildings

Metal	No quote
Masonry	$1.15 to $1.25
Office	5.00 to 7.00
Warehousing	1.15 to 1.25

Older Buildings - 10 Years Plus

Industrial	$1.10 to $1.15
Warehousing	1.10 to 1.15
Office	5.00

NORTHWEST FLORIDA - PENSACOLA

New Buildings

Metal	$ .60 to $ .80
Masonry	.84 to 1.10
Office	3.00 to 5.00
Warehousing	.50 to .76

Older Buildings - 10 Years Plus

Industrial	$ .50 to $ .75
Warehousing	.25 .50
Office	3.00

SOURCE: State of Florida Department of Commerce (February 12, 1971).

TABLE D

SURVEY OF ENTRY LEVEL WAGES FOR UNSKILLED AND SEMI-SKILLED WORKERS IN FLORIDA

City	Lowest Prevailing Entry Wage	1st Quartile	Median	Highest Prevailing Entry Wage
Bradenton	$1.50	$1.75	$1.95	$2.40
Clearwater	1.60	1.97	2.35	3.10
Cocoa	1.25	1.50	1.75	2.25
Daytona Beach	1.30	1.68	2.07	2.85
Ft. Lauderdale	1.45	1.92	2.40	3.35
Ft. Myers	1.40	1.80	2.20	3.00
Ft. Pierce	1.25	1.70	2.16	3.07
Ft. Walton Beach	1.60	1.70	1.80	2.00
Gainesville	1.25	1.60	1.95	2.65
Hollywood	1.50	1.62	1.75	2.00
Jacksonville Area	1.25	1.93	2.63	4.00
Key West	1.25	1.56	1.87	2.50
Lake City	1.40	1.60	1.81	2.23
Lakeland	1.20	1.52	1.85	2.50
Leesburg	1.60	1.76	1.92	2.25
Marianna	1.40	1.51	1.62	1.85
Melbourne	1.40	1.56	1.77	2.15
Miami Area	1.45	1.92	2.40	3.35
Ocala	1.60	1.64	1.67	1.75
Orlando Area	1.45	1.52	1.60	1.75
Panama City	1.60	1.95	2.31	3.03
Pensacola	1.60	1.93	2.26	2.92
Perry	1.60	1.70	1.80	2.00
St. Petersburg	1.60	1.82	2.05	2.50
Sanford	1.40	1.47	1.55	1.70
Sarasota	1.60	1.70	1.80	2.00
Tallahassee	1.00	1.16	1.65	2.30
Tampa Area	1.40	2.05	2.70	4.00
West Palm Beach	1.45	1.59	1.73	2.02
Winter Haven	1.60	1.83	2.06	2.52
N = 30	Mean = $1.43	$1.70	$1.98	$2.53

Source: State of Florida Department of Commerce (December 7, 1970).

TABLE E

(1969-1970)

Revised Form 9/70

STATE-WIDE FOLLOW-UP SUMMARY

AG Form 10

STATE DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL, TECHNICAL, AND ADULT EDUCATION
AGRICULTURAL EDUCATION SECTION
Tallahassee, Florida

FOLLOW-UP OF ENROLLEES IN AGRICULTURAL EDUCATION

(Read instructions on reverse side before completing this report.)

STATUS OF STUDENTS	PREVIOUS SCHOOL YEAR				6-Year Follow-Up	
	Secondary		Post-Second.			
	M	F	M	F	M	F
1. Total number who completed program requirements						
a. Graduated from high school	1719	6	35		8924	24
b. Left high school before graduating	129		13		726	0
c. Completed specialized program	156		85	5	624	19
2. Number(from 1a,1b,& 1c)whose status is unknown	107	3	11	1	901	8
3. Number(from 1a,1b,&1c) not presently available for full-time employment						
a. In the armed forces	288		17		2031	0
b. In full-time school	524	2	45	1	1636	5
c. Not seeking employment for other reasons	42	1	3	2	220	5
4. Number employed or available for employment (see instructions)	1043		57	1	5486	25
5. Number(from line 4) employed full-time						
a. In agricultural production occupations	232		12	0	1050	2
b. In agricultural supplies	86			0	388	0
c. In agricultural mechanics	77		8	0	445	0
d. In agricultural processing	103		4	0	468	1
e. In ornamental horticulture	48		9	0	215	0
f. In renewable agricultural resources	9			0	27	0
g. In Forestry	21		4	0	188	0
h. In other agriculture	65		5	0	360	2
i. In non-agricultural occupations	346		11	1	2046	10
6. Number (from line 4) employed part-time only						
a. Primarily in agricultural occupations.	18		1	0	64	0
b. Primarily in non-agricultural occupations	20			0	127	9
7. Number seeking work and not employed part-time nor full-time	18		3	0	108	1
(Items 5,6, and 7 should equal Item4)	1043		57	1	5486	25
8. Number who left prior to normal completion time with marketable skills	93		2	0		

School Year ending
June 30, 19______

Date Prepared _______

Name of School ________________

Teacher's Signature ________________

TABLE F

FLORIDA DEPARTMENT OF COMMERCE

Claude R. Kirk, Jr., Governor – Roy C. Osborne, Lieutenant Governor

Division of Labor and Employment Opportunities
Willard Peebles, Director

Bureau of Employment Services
L. F. Shebel

TALLAHASSEE, FLORIDA 32304

"OPPORTUNITIES FOR WORK IN PRINICIPAL AREAS OF FLORIDA,"

NOVEMBER 1970 - MAY 1971

THIS CHART INDICATES THE ESTIMATED NEED FOR WORKERS FOR THE PERIOD SHOWN. THE 20 CITIES LISTED ARE REPRESENTATIVE OF THE VARIOUS LABOR MARKET AREAS OF THE STATE. ALL OCCUPATIONS COULD NOT BE LISTED. THEREFORE, OCCUPATIONS NOT LISTED MAY BE ASSUMED TO BE NEITHER SHORTAGE NOR SURPLUS OCCUPATIONS.

SHORTAGES ARE FOR WELL QUALIFIED PERSONS, BUT NO ONE CAN BE ASSURED OF A JOB REGARDLESS OF HOW WELL QUALIFIED. BECAUSE OF FLORIDA'S EVER EXPANDING ECONOMY AND THE NATURE OF SOME JOBS, THERE IS A POSSIBILITY THAT A FEW OF THESE ESTIMATES WILL CHANGE DURING THE 6-MONTHS PERIOD.

MANY EMPLOYERS WILL NOT HIRE WITHOUT A PERSONAL INTERVIEW. PROSPECTIVE WORKERS ARE STRONGLY ADVISED NOT TO COME TO FLORIDA SEEKING EMPLOYMENT UNLESS THEY HAVE SUFFICIENT MONEY TO MAINTAIN THEMSELVES AND RETURN HOME IF THEY ARE UNSUCCESSFUL IN FINDING WORK.

A. STRONG DEMAND FOR WORKERS. SERIOUS SHORTAGE OF QUALIFIED APPLICANTS
B. GOOD JOB OPPORTUNITIES. LOCAL SUPPLY OF QUALIFIED APPLICANTS INADEQUATE
C. OCCUPATION IS IMPORTANT IN AREA, BUT LOCAL SUPPLY OF WORKERS IS ADEQUATE.
D. SOME JOB OPPORTUNITIES, BUT SUPPLY OF QUALIFIED WORKERS EXCEEDS THE DEMAND.
E. VERY FEW OR NO WORKERS EMPLOYED IN OCCUPATION IN THIS AREA.

p=probability of employment

SKILLED AND SEMI-SKILLED OCCUPATIONS	CLEARWATER	COCOA (CAPE KENNEDY)	DAYTONA BEACH	FT. LAUDERDALE	FT. MYERS	FT. WALTON BCH.	GAINESVILLE	HOLLYWOOD	JACKSONVILLE	LAKELAND	MELBOURNE	MIAMI	PANAMA CITY	PENSACOLA	ST. PETERSBURG	SARASOTA	TALLAHASSEE	TAMPA	WEST PALM BCH	WINTER PARK (ORLANDO)	
ALTERATION MAN/WOMAN	D	D	C	C	D	C	D	C	B	C	D	C	B	B	B	C	C	D	C	B	
AUTOMOBILE-BODY REPAIRMAN	C	C	B	B	B	C	C	C	B	B	D	B	B	B	B	B	C	C	B	B	
BAKER	D	E	C	C	D	D	C	C	C	C	D	B	B	E	C	C	C	D	B	C	p=.83
BLOCK MASON	C	C	C	D	C	C	D	D	C	C	E	C	B	C	C	C	C	C	C	B	
BRICKLAYER	D	C	C	D	C	C	D	D	C	C	E	C	B	C	D	C	C	C	C	B	
BULLDOZER OPERATOR	D	C	D	D	D	C	C	D	C	D	D	C	C	C	D	B	C	D	C	B	
CABINETMAKER	C	C	C	D	D	D	C	C	B	C	E	C	B	B	D	B	C	C	B	B	
CARPENTER	C	C	C	D	C	C	C	D	C	C	D	D	B	B	C	C	C	C	C	B	
CEMENT FINISHER	D	C	C	D	C	C	D	D	D	C	D	D	B	C	C	C	C	C	C	C	p=.62
CITRUS PICKER	A	C	C	C	B	E	C	E	E	B	E	E	E	E	A	B	E	A	C	A	
CONSTRUCTION WORKER	C	E	D	D	C	C	C	D	C	C	D	D	B	C	C	B	C	C	C	B	
DENTAL LAB TECHNICIAN	D	E	E	C	D	E	D	E	D	E	E	C	B	E	D	D	E	E	C	D	
DRAGLINE OPERATOR	D	C	C	C	C	C	C	D	D	C	C	B	B	C	C	B	C	C	C	B	p=.36
DRY CLEANER	D	C	C	C	C	C	C	C	B	C	C	C	A	C	D	C	C	D	C	B	
DRYWALL FINISHER	E	E	C	D	C	C	D	D	D	C	D	E	B	C	D	C	C	C	D	C	
ELECTRIC APPLIANCE SERVICEMAN	D	E	C	B	C	C	B	B	B	C	D	C	B	B	C	B	D	C	B	C	
ELECTRIC POWER-PLANT OPERATOR	E	C	E	E	E	D	E	E	E	E	E	E	E	E	D	D	C	E	D	C	
ELECTRICIAN	B	C	C	D	C	C	D	D	C	C	D	C	C	B	C	C	C	C	C	C	p=.60

111

A. STRONG DEMAND FOR WORKERS. SERIOUS SHORTAGE OF QUALIFIED APPLICANTS.
B. GOOD JOB OPPORTUNITIES. LOCAL SUPPLY OF QUALIFIED APPLICANTS INADEQUATE.
C. OCCUPATION IS IMPORTANT IN AREA, BUT LOCAL SUPPLY OF WORKERS IS ADEQUATE.
D. SOME JOB OPPORTUNITIES, BUT SUPPLY OF QUALIFIED WORKERS EXCEEDS THE DEMAND.
E. VERY FEW OR NO WORKERS EMPLOYED IN OCCUPATION IN THIS AREA.

	CLEARWATER	COCOA (CAPE KENNEDY)	DAYTONA BEACH	FT. LAUDERDALE	FT. MYERS	FT. WALTON BEACH	GAINESVILLE	HOLLYWOOD	JACKSONVILLE	LAKELAND	MELBOURNE	MIAMI	PANAMA CITY	PENSACOLA	ST. PETERSBURG	SARASOTA	TALLAHASSEE	TAMPA	WEST PALM BEACH	WINTER PARK (ORLANDO)
ELECTRICIAN, AIRCRAFT	D	E	E	E	E	C	E	E	E	E	E	D	E	E	B	E	E	D	E	E
ELECTRONICS ASSEMBLER	D	E	D	D	E	C	C	D	D	E	D	D	E	E	E	C	E	C	C	D
ELECTRONICS MECHANIC	D	E	E	D	D	C	E	E	E	E	D	D	E	E	E	D	C	C	C	C
FACTORY WORKER	D	E	D	D	E	E	D	D	C	D	E	D	B	C	D	C	D	C	C	C
GARMENT CUTTER	D	E	C	D	E	E	D	E	E	E	E	C	B	E	D	C	E	D	D	E
GAS APPLIANCE SERVICE & REPAIRMAN	D	C	C	B	C	C	B	D	B	C	D	C	B	B	C	D	C	D	B	D
GLAIZER	D	C	C	C	C	C	E	D	C	C	E	B	B	C	D	C	C	C	D	D
INSTRUMENT REPAIRMAN	D	C	E	D	E	C	E	E	C	C	E	C	E	E	D	C	C	E	D	D
LABORER	C	E	C	D	C	C	C	C	C	C	D	C	B	C	C	B	C	C	C	C
LATHE OPERATOR	D	D	C	C	E	D	D	D	C	C	D	B	C	C	C	C	C	C	C	D
LINEMAN	D	D	C	D	C	C	D	D	C	E	D	C	C	C	D	C	C	C	C	D
MACHINIST	C	D	C	C	D	C	D	C	A	A	D	C	B	B	C	C	C	D	C	B
MAINTENANCE MAN, BUILDING	D	D	C	C	D	C	C	C	C	C	D	C	B	B	C	B	C	C	C	C
MAINTENANCE MECHANIC	C	D	C	C	E	C	D	D	B	C	E	B	B	B	C	C	C	C	C	D
MECHANIC, AIRCRAFT ENGINE	D	E	E	E	E	D	E	E	E	E	E	D	E	E	C	D	E	D	D	E
MECHANIC, AIRCRAFT JET	D	E	E	E	E	D	E	E	E	E	E	E	E	E	C	E	E	D	E	E
MECHANIC, AUTOMOBILE	B	C	B	A	C	C	C	B	A	B	C	C	A	B	B	A	B	C	B	A
MECHANIC, DIESEL	D	C	D	A	C	E	D	D	B	B	E	B	A	B	C	B	C	C	B	A
MECHANIC, ENGINEERING EQUIPMENT	D	C	E	B	E	D	E	E	B	B	D	D	C	B	D	C	C	D	C	D
MECHANIC, REFRIGERATION & AIR CONDITIONING	C	C	B	A	C	C	C	C	B	B	D	C	B	B	B	B	C	D	B	D
MECHANIC, TRUCK	B	C	C	B	C	C	C	C	A	B	D	B	B	B	B	B	A	C	B	A
MILLWRIGHT	D	E	C	C	E	E	E	E	C	C	E	C	B	E	C	D	E	C	C	D
MOTOR-GRADER OPERATOR	D	E	C	D	C	C	C	D	C	C	D	C	B	C	C	C	E	C	C	B
OFFICE-MACHINE SERVICEMAN	D	D	C	B	C	C	B	E	B	C	E	B	B	B	D	D	C	D	B	C
OFFSET-PRESS MAN	D	E	D	B	D	E	C	C	D	D	D	C	A	B	B	B	C	D	C	C
OPERATING ENGINEER	C	C	D	C	C	C	E	D	C	C	D	C	B	C	C	C	C	C	C	B

F

TABLE G

The computation of the probability for employment in Dental Assisting, Air Conditioning, Heating and Refrigeration, and Data Processing is effected by weighting the A to E scale in Table F as follows:

Scale	Weight
A	1.0
B	1.0
C	.8
D	.6
E	.4

The mean of the sum of the weights for each of the twenty cities is the probability for employment in that particular occupation in Florida.

VOCATIONAL-TECHNICAL EDUCATION FOR DISADVANTAGED PERSONS IN FLORIDA: A STUDY DESIGN

by

Lawrence Weisman

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APPENDIX 134

VOCATIONAL-TECHNICAL EDUCATION FOR DISADVANTAGED PERSONS IN FLORIDA: A STUDY DESIGN

This study has been designed to examine programs for the disadvantaged from their broadest aspects. At the same time a considerable degree of depth has been built in to the study in an attempt to avoid the errors possible in a superficial examination.

The basis for the design is the hypothesis that programs for the disadvantaged need to be developed as a system; that programs that are simply courses or curricula do not, in themselves, meet the needs. There is no point, for instance, in developing a well-designed course geared to aid low achievers if there is no assurance through appropriate recruiting techniques, that the low achievers who were targeted will attend. On the other end of the continuum, there must be a good potential for job placement in order to properly motivate people to enroll and to persist. One example of this is a case in which a school district established a neighborhood center in a black ghetto to teach typing. Very few people enrolled despite considerable advertising. The reason: this area traditionally did not hire blacks to work in offices, and the black community was aware of it.

The continuum of this hypothetical system was organized into six major areas. Recruiting, to include the guiding policies of the institution is the first area. Second is the initial contact; this includes initial guidance, admissions, and testing, in terms of both personnel and procedures. The third area is ongoing support services; included are personal guidance, financial aid, medical services, and programs for affective development. Fourth is the area of staff orientation; the concern here is with development of positive attitudes on the part of the staff towards the target groups and towards any special programs for them. The fifth area covers curriculum, instruction, instructional materials, and facilities. Finally, the "product" part of the system, placement.

This organization evolved from a more basic question that required answering. "In what possible activities can an educational institution engage that will enhance the educational opportunities for disadvantaged people?" As the list grew, it became clear that there were distinct phases involved and this led to the concept, stated earlier, that systems are required.

The end product was lengthier and more complex that it was felt would be well-received as a questionnaire for mailing; therefore, it was decided that better results would be obtained by visiting a fair sample of the institutions concerned. Hence, the instrument that was developed, which we call an "inventory," is designed as a guide for an interviewer and is not entirely self-explanatory. This instrument, abbreviated in format, is attached as Appendix A.

The field work was conducted by three research associates to the project: Mr. Orr focused on the secondary schools; Mr. Stroud, the county-operated area vocational centers; the author, the community junior colleges. Each of these researchers selected his own structured sample on bases explained in their individual reports.

Limitations

The elementary schools were omitted because there has been too little time since the implementation of the 1968 Amendments for vocational programs to be established in the elementary schools; there is also the question of whether programs at this level are specially designed for disadvantaged children, or, with the exception of physically, mentally, or emotionally handicapped children, should be so designed.[1]

Disadvantaged Defined

Any person that has an economic; cultural; learning achievement; or physical, mental or emotional handicap to educational opportunity is disadvantaged. This definition corresponds with those of the Division of Vocational, Technical and Adult Education and the Division of Community Colleges. It should be noted that the definition includes the low achiever--both the underachiever and the person of low ability.

---

[1] *The coordination of handicapped students in the general public facilities is accomplished by the Division of Vocational Rehabilitation. They refer students to these institutions when they believe that these students, although handicapped, can benefit from regular programs. As a rule, students who need special programs are sent to special schools; for this reason, the inventory provides questions only about facilities and numbers of handicapped students who are enrolled.*

Rationale of the Inventory

As indicated, the initial effort was to develop a list of activities that had good potential for enhancing educational opportunities for the disadvantaged. It was hoped that these activities would be supported by valid research. In general terms this has been done, but, specifically, some items were included that either had popular acceptance or for which strong rationale had been developed. For example, orienting teachers in the psycholinguistic patterns of students has a good rationale but is not in common practice while compensatory education is in common practice but not proved by research.

Early in the development of this study it was found that very little objective evaluation had been made of programs for the disadvantaged. Further, it was found that a distinct problem existed in matching results with the stimuli (variables) that caused them; hence it was hoped that an evaluation system could be evolved based on the parts rather than on the product. In geometry, the theorem is that the whole is equal to the sum of its parts; behaviorists would say that the whole is greater than the sum of its parts. In either case there appears to be value in developing this kind of model since in many cases it is not possible, on present information systems, to evaluate the programs on the basis of productivity.

The term "product" is inadequate for use here since it implies quantity and quality of outputs but does not necessarily relate to the input. We need to assess the net yield in order to understand the efficiency of our process. Many follow-up studies continue a pattern of sending post cards to graduates of programs. This is less true of the vocational-technical sector than of the academic sector, but it still applies. Many vocational students leave to accept jobs in the area for which they have been trained and the progress of these students frequently is followed by their instructors or schools. It still is not the common practice, however, to compare initial enrollments with eventual placement.

Recognizing that the development of such a model would require long range study to prove its validity, this model was developed and named as an inventory.

Section I of the inventory deals with recruitment and is based on principles of management and communications. Planning and evaluation are basic tools of administrators and particularly of democratic or pluralistic administrators.[1] Early in the planning process goals must be developed in order to give direction to the efforts. It is generally accepted that planned efforts are more likely to produce desired results than are chance efforts.

Principles of communications are applied in the process of changing beliefs. If members of a minority group are accustomed to discrimination in a certain vocational sector, they will not respond to invitations to receive training in that area unless they can be assured that the message is intended for them. This is a problem in credibility. Credibility pertains to the communicator and the media used as well as to the linguistics of the message itself.[2]

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[1] *For purposes of brevity, statements are summarized from background readings, and the selected references found at the end of this chapter are in general rather than specific support.*

Section II considers the initial contacts and entrance procedures which set the course for the entering student. In the spirit of last year's report of the State Advisory Council, a key goal of vocational education ought to be "human resource development."[3] This concept recognizes that in the traditional category of low achievers there is a sizeable potential of undeveloped talent, frequently called "underachievers." This latter term customarily applies to academic achievement, but we are using it here to include those whose manual and creative talents are undiscovereed and undeveloped.

There is widespread concern that traditional placement instruments are not adequate predictors of success, but primarily function to measure achievement. It is certainly fair to assume that those who have achieved in the past will likely achieve in the future. The question is whether it is fair to assume that those who have failed to achieve in the past cannot achieve in the future. Socio-economic status (SES) and motivation can have a profound effect on achievement.

> Motivational conditions appear to have differential effects on the short term memory of normal and retarded children, and thus may confound overall effects of studies comparing learning characteristics of such groups. Findings of the present study may be interpreted to demonstrate the importance of consideration of motivation when making generalizations about learning aptitudes and abilities of children from differing socioeconomic, ethnic, or intellectual backgrounds.[4]

One table in this study by Keogh and MacMillan (reproduced as Table I) showed significant gains of the low SES educable mentally retarded (EMR) over the middle SES EMR under a condition where repetition in the presentation is emphasized. The gain was significantly greater with extrinsic motivation than with intrinsic motivation. These median scores surpassed all other scores for both the normal IQ range students and the EMR students of both economic groups in all presentation conditions except for the acores achieved by the normal students under conditions of repetition. The scores achieved by the low SES EMR were proportionately greater than the middle SES EMR under the optimum conditions for each group and approached the achievement of both groups of normal students. The implication of these results is that many low SES EMR are not bona fide EMR but, instead, are underachievers.

The importance of this observation was reflected in one study in last year's State Advisory Council report[5] in which it was shown that students are placed into many vocational or technical programs on the basis of achievement scores. In some instances these scores were not relevant to the job performance requirements but reflected either an attempt to prescreen applicants for ability to pass state licensing examinations or to match the teaching

TABLE I

MEANS AND STANDARD DEVIATIONS OF POSITION SCORES BY SUBGROUPS UNDER THREE PRESENTATION CONDITIONS

Normal N = 60				EMR N = 60			
Middle SES		Low SES		Middle SES		Low SES	
Ex M	In M	Ex M	In M	Ex M	In M	Ex M	In M
Intermediate							
17.00	19.27	16.13	19.33	11.73	8.53	13.80	12.53
5.33	6.76	6.44	8.08	5.40	3.56	4.36	4.14
Delayed							
16.87	16.27	16.93	17.00	10.67	9.73	11.33	10.47
6.05	6.62	5.64	6.82	4.67	3.92	3.89	4.14
Repetition							
20.53	20.53	20.47	19.40	13.93	14.07	18.27	16.40
4.69	5.49	6.64	5.41	6.12	4.88	5.15	4.63

Explanation:

EMR = Educable Mentally Retarded
SES = Socio-Economic Status
Ex M = Extrinsic Motivation (toys, etc.)
In M = Intrinsic Motivation (praise, grades, etc.)
Immediate = Immediate recall
Delayed = Delayed recall--ten second delay
Repetition = Immediate response after third repetition

Source: Table extracted from Keogh and MacMillan.[4]

procedures. There still remained the question of whether the tests utilized for placement guidance were appropriate for their purpose.

Another related concern in the initial guidance process was for the physiological and psychological health of the applicant. Keogh and MacMillan's study demonstrated that there were more underachievers among low SES EMRs than among middle SES EMRs. The question is, what causes this? Social psychologists can relate this to lack of achievement motivation inherent in lower working classes.[6] On the other hand, there may be a higher incidence of physical, psychological, or neurological disorders among lower working classes or low achievers than among the general population. Several studies bear this out.[7]

In one study, an experimental and demonstration project involving placement by the work samples techniques, 35.1 per cent of the experimental sample (N = 268) was found to have some disorder (see Table 2).[7]

In an unpublished study conducted at Polk Junior College in cooperation with the Polk County Health Agency, a population of 44 students in Directed Studies were examined in October, 1967. The major findings of this study showed that 31.7 per cent of these students had a nutritional state of from fair to anemic; 27.3 per cent had hearing disorders; 22.7 per cent had visual disorders; and 11.4 per cent had dental problems. There were other, less frequent disorders as well.

A formal study was conducted in several community colleges

TABLE 2

HANDICAP STATUS OF COUNSELEE AT INTAKE ACCORDING TO HRD COUNSELOR BY SEX AND RACE FOR THE EXPERIMENTAL SAMPLE (N = 94)*

	Male				Female					
	White		Nonwhite		White		Nonwhite		Total Sample	
Handicap Status	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Mentally Retarded	2	12.5	10	33.3	1	14.3	12	29.3	25	26.6
Physical Disability	5	31.2	10	33.3	2	28.6	17	41.4	34	36.2
Emotionally Disturbed	4	25.0	2	6.7	3	42.8	5	12.2	14	14.9
Personality Disorder	3	18.7	5	16.7	0	0.0	5	12.2	13	13.8
Multiple	2	12.5	3	10.0	1	14.3	2	4.9	8	8.5
Totals	16	99.9	30	100.0	7	100.0	41	100.0	94	100.0

*174 were considered able-bodied by the counselors. This is made up of 8 white males, 43 nonwhite males, 12 white females, and 111 nonwhite females. 174 = 64.9% of the total sample of 268.

Chi-square analysis shows a significant difference between the Experimental and Control samples with regard to handicapped proportion. P = .001; d.f. = 1.

This table was extracted from *Work Samples: Signposts on the Road to Occupational Choice*. J.E.V.S., 1968.

in Florida in the fall of 1968 which included blood analyses, sight and hearing examinations, and personality evaluations. Those findings which were significant are shown on Table 3.[8]

The proposition that self-concepts are a determining factor in the success of students is one that has broad acceptance by social psychologists.[9] The effect of the attitudes of faculty and counselors on self-concepts is of concern throughout the study. The importance of student orientations can be better understood from this viewpoint: students from familiar, "homey" backgrounds tend to have high self-perceptions. When these children are placed into unfamiliar environments their self-concepts decline.[10] Orientations can provide information to give confidence to the student in knowing what he is doing and in speeding familiarization with his environment.

Section III surveys the supportive ancillary services available to disadvantaged students. Adjustment problems in terms of self-concepts have been mentioned. Other personal problems may interfere with learning without being involved with self-concepts. Problems in the family or with the family are possible in all elements of society, but low socio-economic groups may be more susceptible and have less ability to cope.

The need for financial aid bears little comment: economic disadvantagement is a problem for all cultural groups and for persons of all levels of intelligence. There is a high correlation between economic disadvantagement and low achievement; therefore, providing greater opportunities for low achievers necessarily

TABLE 3

SUMMARY OF SIGNIFICANT F BY GROUPS

					T-Tests/Groups		
Variables	I	II	III		I, II	I, III	II, III
Father's education Level[9]	2.40[1]	3.25	3.57	4.57	.05	.01	NS[2]
WAIS Verbal IQ	98.4	109.8	114.7	45.25	.05	.01	.05
WAIS Performance IQ	03.0	111.2	112.1	7.46	.01	.01	NS
WAIS Full Scale IQ	00.2	111.0	114.3	36.17	.01	.01	NS
MMPI Depression Scale	50.8	46.3	46.1	3.56	.05	.05	NS
MMPI Ego Strength Scale	47.0	49.0	53.4	3.27	NS	.05	NS
Creatinine	.99	.85	.91	3.58	.05	NS	NS

[1] *This number was obtained by compiling the average response number for the related item on the Junior College Questionnaire, a copy of which is contained in the Appendix.*

[2] *Not Significant.*

The table indicates that seven factors discriminate among the groups. Moreoever, the only factor on which Groups II and III differed significantly was WAIS Verbal I.Q. For all practical purposes, there are only two empirically meaningful groups--Group I alone and Groups II and III combined. This fact provides empirical substance for a meaningful separation of groups at about 170 total score on the Florida Twelfth Grade Test.

Table reproduced from John Losak, A Pilot Study Related to Identification, Placement, and Curriculum Development for Academically Underprepared Students in Florida Junior Colleges. Mimeographed, 1969.

implies a need for more financial aid. However, there are strong differences of opinion on what kinds of financial aid are needed. The study did not focus on this problem directly, but some by-product in this area was anticipated.

Considerable comment has been made on the status of the health of the low achiever, and Section II investigated the diagnostic facilities available. Section III completes the information input aspects and inventories the treatment facilities that are available.

The part of this section dealing with affective development again is concerned with self-concepts, but from the view of on-going projects. Familiarity with the environment is expanded from the school environment to the job environment.

Section IV has as its underlying theme the effect of teacher's expectations and attitudes on the achievement of their students. This is the idea of the self-fulfilling prophecy. Blacks and low achievers frequently are stereotyped by the teacher so that the teacher is satisfied by low gains or no gains and fails to encourage the students to do better.[11]

There is a tendency, called a "halo effect," for teachers to grade students according to the stereotype. Hence, the teacher may give the benefit of the doubt to the "good" students and lean the other way for the "poor" students, thus helping to perpetuate their status.[12]

It is possible to evaluate the attitudes of the faculty towards low achievers and minority groups, but this approach is costly and would impose on faculty time. Realistically, it should be expected that a full range of attitudes would be found, despite the fact the preponderance might lean a little more one way than the other. It was reasoned, therefore, that an institution ought to have ongoing programs of orientation to attempt to change negative attitudes and reinforce positive ones.

The final question in this section broadly covers the characteristics of disadvantagement which have implications for learning. These characteristics have been compiled in several recent publications which are referenced for the reader interested in better detail.[13] The importance of what the content should be cannot be overemphasized. We cannot accomplish anything by telling people that their attitudes are wrong and they must change: we may make them more guarded in expressing themselves, but their behavior toward their students is not likely to be affected. We can present them with rational evidence concerning their beliefs. As their belief systems become modified, their attitudes will be modified.[14]

For example, it is commonly believed that certain groups do not verbalize or symbolize well. Gordon and Wilkerson point out that the problem is that these disadvantaged do not express themselves in standard English, but they do express themselves in other, complex, symbolic ways, and there is no evidence to show that they are less able to symbolize than middle class people.[15] The implication for teaching is that these individuals can be reached but with modified systems of communcations. Hence, the study calls for understanding of psycholinguistics.

Section V centers on instructional methodology. It asks the question, "What instructional strategies are being utilized to meet the learning needs of disadvantaged students? It recognizes that disadvantaged students have diverse learning needs and learning patterns. We recognize that these students do not do well in traditional educational situations and so educators throughout the nation are experimenting with a myriad of techniques to find the one best suited to low achievers. Dr. Louis Schwartz, of The Florida State University, theorizes that no one pattern will fit all low achievers, that we must offer instructional alternatives (also called "multiple strategies") so that students can be placed into learning environments in which they can learn most effectively.[16]

The background research revealed widely diversified and innovative projects but nothing conclusive as to relative merit. For this reason, this part of the study was designed to assess only what kinds of methods are being employed and some simple quantitative assessment of product.

The final section, Section VI, of this study is based on the reality that job placement is the ultimate goal of vocational training and is, therefore, the ultimate motivator. Vocational educators are faced with a continuing problem of matching training output to manpower requirements. With a heavy investment in fixed assets and with obligations to career teachers there is a justifiable basis for reluctance to react too quickly to market fluctuations. Another factor that may have significance in different locales is a tradition of discrimination in employment in certain occupations. In either case, nothing is more discouraging to a student than to find that there are little or no opportunities for employment for him in the occupation for which he is training.

A vigorous placement program can serve several functions supplementary to helping students to obtain employment. It can provide valuable feedback on the quality and content of the training programs. It can provide information on changing manpower requirements. And, finally, it can provide career planning information to students and counselors.

SELECTED REFERENCES

Listings are grouped by reference number as they are used to support the inventory item rationale Section I.

1. Campbell, Clyde M., ed. Practical Applications of Democratic Administration. New York: Harper & Brothers, 1952.

   Morphet, Edgar L.; Johns, Roe L.; Reller, Theodore L. Educational Organization and Administration Concepts, Practices and Issues. 2nd Ed. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967. Ch. 4.

2. Krech, David; Crutchfield, Richard S.; and Ballachey, Egerton L. Individual in Society. New York: McGraw-Hill Book Co., 1962. Chs. 7 and 8.

   Newcomb, Theodore M.; Turner, Ralph H.; and Converse, Phillip E. Social Psychology. New York: Holt, Rinehart and Winston, 1965. Chs. 4, 7.

3. Kraft, Richard H. P. and Weisman, Lawrence. Vocational-Technical Education in Human Resource Development in Florida. Tallahassee, Florida: State Department of Education, 1970.

4. Keogh, Barbara K., and MacMillan, Donald. "Effect of Motivational and Presentation Condition on Digit Recall of Children of Differing Socioeconomic, Racial, and Intelligence Groups." Los Angeles: University of California, 1970. Mimeo submitted for publication in 1971 to AERJ.

5. Weisman, Lawrence. "Factors Affecting Participation of Target Groups in Vocational Training Programs." In Kraft, Richard H. P. and Weisman, Lawrence. Vocational-Technical Education in Human Resource Development in Florida. Tallahassee, Florida: State Department of Education, 1970.

6. Rosen, Bernard C. "The Achievement Syndrome: A Psychocultural Dimension of Social Stratification." American Sociological Review. XXI, 1956, 203-211.

7. Jewish Employment and Vocational Service. Work Samples: Signposts on the Road to Occupational Choice. Philadelphia: Jewish Employment and Vocational Service, 1968.

9. Krech, David; Crutchfield, Richard S.; and Ballachey, Egerton L. Individual in Society. New York: McGraw-Hill Book Co. Inc., 1962. Pp. 82, 83.

   Newcomb, Theodore M.; Turner, Ralph H.; and Converse, Phillip E. Social Psychology. New York: Holt, Rinehart and Winston, Inc., 1965. Pp. 141, 142.

   Rosenthal, Robert and Jacobson, Lenore F. "Teacher Expectations for the Disadvantaged." Scientific American. CCXVIII, April 4, 1968. Pp. 19-23.

10. Soares, Louise M. and Soares, Anthony T. "Self-Concepts of Disadvantaged and Advantaged Students." Proceedings, 78th Annual Convention, 1970, American Psychological Association, 1971. Pp. 655-656.

11. Rosenthal, Robert and Jacobson, Lenore F. "Teacher Expectations for the Disadvantaged." Scientific American. CCXVIII, April 4, 1968. Pp. 19-23.

12. Krech, David; Crutchfield, Richard S.; and Ballachey, Egerton L. Individual in Society. New York: McGraw-Hill Book Co. Inc., 1962. Pp. 53-55.

13. Gordon, Edmund W. and Wilkerson, Doxey A. Compensatory Education for the Disadvantaged. New York: CEEB, 1966.

    Morgan, Gordon D. The Ghetto College Student. Iowa City: ACT, 1970.

14. Gordon, Edmund W. and Wilkerson, Doxey A. Compensatory Education for the Disadvantaged. New York: CEEB, 1966.

15. Schwartz, Louis, Professor of Habilitative Sciences, The Florida State University. Personal interview, Tallahassee, Florida, December, 1970.

APPENDIX

INVENTORY OF INSTITUTIONAL ACTIVITIES FOR EDUCATIONAL OPPORTUNITIES FOR THE DISADVANTAGED

Inventory of Institutional Activities
for Educational Opportunities for the
Disadvantaged
(Weisman - 1971)

Institution________________________

Dates Visited______________________

Interviewed____________________ Title________________ Phone__________

SECTION I. Recruitment

Part A. Institution Objectives — Planned

1. What is the institution's role in providing educational opportunities for the disadvantaged?

____

____

____

____

Defined By:____________________________

a. How does it define its "open door" policy? (x)
All who can benefit _____ _______
All who would try _____ _______

b. Has the institution committed itself to seek out high risk students?
Is committed to most productive use of its resources _____ _______
Is committed to an aggressive recruitment campaign _____ _______
Has defined goals for participation in providing opportunities for high risk students (Describe)

____

____

____

____

____

2. Does the institution favor an active or passive role for itself in securing the success of the student? (x)
Sees course modification and special methods as paternalistic and demeaning to the student _____

Seeks ways to adapt to the needs of the student _____ _______

Part B. Recruitment Process **Planned**

1. By what procedure does the institution identify target populations? (x)
   Institutional committees or workshops _____ _______
   Community agency _____ _______
   Community advisory council _____ _______
   Other (Specify) _____ _______

   ____

   ____

   ____

2. By what procedures does the institution identify the needs of the target population? (x)
   Institutional committees or workshops _____ _______
   Community agency (name) _____ _______
   Community Advisory Council _____ _______
   Target population leadership (Interview or Advisory Council membership) _____ _______
   None _____ _______

   Other (Specify)____

   ____

   ____

3. Has the institution identified and utilized communications media credible to target population? Yes_____ No_____ _______
   If yes, identify:
   Newspaper (Name)________________________________ _______
   Radio (Station) ________________________________ _______
   Television (Channel)________________________________ _______
   Pulpit Announcements (x) ______ _______
   Handbills (or billboards) in area (x) _____ _______
   in meeting places _____ _______

4. Has the institution identified and utilized credible communicators? Yes ____ No ____ _______
   Comment:

   ____

   ____

   ____

   ____

Planned

I B 5. Have the messages been developed to be credible and meaningful to the target population? (This judged by intent) Yes_____ No______ _______
Appears to meet criteria Yes______ No_____

6. Are contact personnel (counselors, recruiters) credible? (Group identity or appropriate attitudes and empathy) Yes____ No _____ _______

Method of selection: (x)
Observed characteristics _______
Volunteer _______

7. What are the recruitment goals of the institution (% of the disadvantaged to be enrolled)? _______% _______%

8. What progress has been made in meeting these goals (% of disadvantaged currently enrolled)? _______%

9. What percent of enrollment is black? _______%

10. What percent of population in service area is black? _______%

Interviewed ______________________ Title ______________________ Phone ____________

SECTION II. Admissions, Initial Guidance and Testing

Planned

1. Are placement tests and entry levels appropriate for the programs desired by the student?
   Yes _____ No _____ (Describe)

____

____

____

____

____

____

2. Are diagnostic tests conducted to determine possible causes for learning deficiencies? (Educationally disadvantaged)

Medical (Visual, aural, systemic, etc.)	________	________
Psychological (Emotional)	________	________
Neurological (i.e. perceptual motor)	________	________
Psycholinguistic	________	________
Reading	________	________
None	________	________

Other (Describe)____

____

____

3. Do guidance and counseling staff have special qualifications for working with disadvantaged students?
   (What basis for these qualifications?)

Group Membership	________	
Previous related work experience	________	
Training (x)	________	
University courses	________	________
Institutional workshops	________	________
Professional workshops	________	
Other (Describe)	________	________

____

____

4. Are remedial courses required or optional to meet deficiencies in recommended entry levels?

Required, prerequisite	________	________
Required, concurrent	________	________
Either of above options are required	________	
Optional	________	________
Not Available	________	

Planned

II. 5. Have provisions been made to ease the trauma of enrollment?
Simplified procedures ________ ________
Sponsor ________ ________

Other? (Describe) ______________________________ ________

____

6. Has the institution developed an orientation program? Yes___ No____
Offered prior to commencement of class _____ ________
Offered early in semester _____ ________
Spread over first semester _____ ________
For all entering students _____ ________
Special for target populations _____ ________
Does it include:
When, where, how to get help _____ ________
Institution facilities & services _____ ________
Acceptable standards of conduct _____ ________
Forming personal goals _____ ________
Institutional goals _____ ________
Forming study and work habits _____ ________
Extra-curricular activities _____ ________
Other (Describe) _____ ________

____

____

____

Interviewed________________________ Title__________________ Phone__________

SECTION III. On-Going Guidance

Planned

Part A. Personal Guidance

1. Are guidance facilities available for counseling in home and family problems?
    - Institutional facilities __________ ______
    - Local agency __________ ______

2. Are programs available to assist the student in personal adjustments to the school environment and to the learning situtation?
    - Curricular _____ ______
    - Individual Counseling _____ ______
    - Group Counseling _____ ______
    - Group Orientation

Other (Describe)________________________________

____

2a. Are these programs administered by the academic staff, by the guidance staff or jointly? If not jointly, what coordinator or cooperation exists in the development of content or materials? (x)
- Academic staff _____ ______
- Guidance staff _____ ______
- Jointly _____ ______

Comments:______________________________________

____

____

2b. Are regular or periodic visits scheduled for the student with a representative of the institution for purposes of guidance and counseling? _____ ______

Part B. Financial Aid

1. What kinds of financial aid are offered for disadvantaged students?
    - a. Scholarships No. Available______ No. of students_____ ________
    - b. Loans Amount Available ______ No. of students _____ ________
    - c. Work/Study
      Is there some effort to place students in situtations that contribute to their educational program?
      Yes___ No___ Occasional____ ________
    - d. Waiver of tuition (or other fees) No. of students_____ ________
    - e. Subsidies for books, uniforms, tools, or supplies
      No. of students benefiting _____ ________

Planned

III B f. Transportation furnished or subsidized
No. of students benefiting ________ ________

g. Federal school lunch program or other nutrition subsidy
No. of students benefiting ________ ________

h. Day care centers
No. of students benefiting ________ ________

i. Grants No. of students benefiting ________ ________

j. Total number of students benefiting from one or more programs of financial aid ________ ________

k. Other? (Describe)____

____

____

____

____

2. How is need determined?
Confidential Parents Statement ______
Interview with student ______
Other? (Describe)

____

____

3. Are there facilities available for counseling in personal finance and financial aid?

a. Staff _____
b. Community Agency _____
c. Brochure _____
d. Curricular Course _____

Part C. Medical Services

1. Is a physical examination required for matriculation?
(x) Yes ___ No____ ________

2. Are facilities or funding available to provide free examination to prevent financial hardship? (x)
Yes ___ No____ ________

3. Are facilities or funding available to provide free or low cost medical treatment while student is enrolled? (full-time) (x) Yes____ No___ ________

Planned

III. C 4. Are dental examinations provided? Yes____ No_____ _______

5. Dental care? Free or low cost? Yes____ No_____ _______

6. Are procedures established for referring individuals with significant chronic medical, dental or emotional disorders to Vocational Rehabilitation when the disorders are judged to impede learning or future job performance? Yes____ No_____ _______

7. How effective are the programs that are dependent on community agencies?

____

____

____

____

____

8. Is funding adequate for those needs not supported by community agencies? (Amount) Current $__________ $_______

Comment:______________________________________

____

____

____

____

Part D. Affective Development

1. Are programs provided to improve self-concepts?

Yes____ No______ ________

Ethnic Studies (x) _______ ________
Ethnic cultural presentations (x) _______ ________
Ethnic or group mtg. places or clubs (x) _______ ________
Ethnic collections in library _______ ________

Planned

III. D 1 Recognition of achievement of target group members (Describe) ____ ________

____

____

____

Communicated to group? (x) Yes____ No____

(Describe)____

____

____

____

2. Are programs provided which promote understandings of the predominant culture as to: (x)
   Work Ethics ____ ________
   Employer-employee relationships ____ ________
   Student-teacher relationships ____ ________
   Occupational appreciations ____ ________

Are these orientations conducted by: (x)
   Counselors ____ ________
   Faculty (Department) ____ ________
   Jointly ____ ________

3. Are provisions made for experiences to provide appreciation of learning for: (x)
   Continued technical advancement ____ ________
   Aesthetic enrichment ____ ________

Interviewed______________________ Title________________ Phone__________

SECTION IV. Staff Orientation Planned

1. Does the institution offer staff development programs for: (x)
   a. Counselors________ b. Faculty _____ ________
   who work with target groups?

2. The following methods are employed: (x)

Institutional Workshops	_____	_______
Insitutional Seminars	_____	_______
Guest Speakers	_____	_______
Professional Literature	_____	_______
Other? (Explain)	_____	_______

____

____

____

Funds or Released Time for: (Number Participating*)

Professional Conferences:	Faculty________	________
	Counselors______	________
Professional Membership:	Faculty________	________
	Counselors______	________
Advanced Study:	Faculty________	________
	Counselors______	________

Other? (Explain)

____

____

____

3. Are any of the following objectives included in the staff development programs? (x)

Development of positive attitudes towards latent learning potential of disadvantaged student:	______	________
Understanding of the individuality of learning patterns of underachievers:	______	________
Understanding of psycholinguistic patterns of target population:	______	________
Understanding environmental and social impediments to learning experienced by target population:	______	________
Appreciation of the historical and cultural contribution of the target group to the society and to the service area:	______	________
Appreciation of current cultural patterns of target population:	______	________

* Current Fiscal Year

Interviewed________________________ Title________________________ Phone___________

SECTION V. Curriculum, Instruction and Instructional Materials   Planned

1. What modifications are made to vocational or technical courses to meet learning needs of educationally disadvantaged students? (x)
   Systems: Instructional Modules ____ ______
   Behavior Modification (Reinforcement) ____ ______
   Others ____ ______

____

____

Techniques and Materials:
CAI and Comp. Managed Instruction ____ ______
Multi-media ____ ______
Specially developed reading materials ____ ______
Individualized ____ ______
Supervised work experience ____ ______
Demonstrations emphasized ____ ______
None of above needed: Students are placed according to ability ____ ______
Others (Specify) ____ ______

____

____

2. Are instructional alternatives in VTE courses available? ____ ______

3. How many disadvantaged students are enrolled in modified vocational-technical courses? ____ ______

4. What modifications are made to academic courses to meet learning needs of educationally disadvantaged students? (x)
   Systems: Instructional Modules ____ ______
   Behavior Modification (Reinforcement) ____ ______
   Other (Specify) ____ ______

____

____

Techniques and Materials:
Team Teaching ____ ______
CAI and Comp. Managed Instruction ____ ______
Multi-Media ____ ______
Specially selected readings ____ ______
Individualized ____ ______
Experiential Learning Situations ____ ______
Individual Study ____ ______
Individual Research ____ ______
Learning by Tutoring Others ____ ______

			Planned
V. 4	Simplified Content	______	______
	Tutoring	______	______
	Other (Describe)	______	______

____

____

____

			Planned
5.	Are instructional alternatives available in academic courses?	______	______
6.	How many educationally disadvantaged students are enrolled in modified academic courses?	______	______
7.	Are plant facilities designed to accommodate physically handicapped students?	______	______
8.	Are special materials available for blind students?	______	______
9.	Are special materials available for deaf students?	______	______
10.	How many of the following categories of students are enrolled?		
	Blind	______	______
	Deaf	______	______
	Mobility Disorders	______	______

Interviewed____________________ Title____________________ Phone________________

SECTION VI. Placement — Planned

1. How are students placed on jobs?
   School Placement Service ______%
   Government Agency ______%
   Private Agencies ______%
   Independent ______%
   On Campus Recruitment ______%
   Teacher Referral ______%
   Other: ______%

   ____

   ____

2. Is there identification of jobs open to or reserved for target groups? (x)
   By Counselors______ By Faculty______ ________

3. Are students made aware of the jobs available prior to or during their educational programs? (x)
   Yes____ No ____ ________

4. Are students trained or oriented in techniques of obtaining employment? (x)
   By Counselors____ By Faculty______ ________

5. What is the institution's standard for success in vocational programs? (% of initial enrollment)

	Current	Goal
Job Placement	______	______
Course Completion	______	______

   Which measure does the institution regard as more valid?____________________________

6. Has the institution established any follow-up procedures? Describe results.

   ____

   ____

   ____

   ____

   ____

Planned

VI. 7. What percentage of students in transfer programs complete and are accepted by senior institutions?

	Complete	Transfer
Total Enrollment	_______%	_______%
Disadvantaged	_______%	_______%

EVALUATION OF PROGRAMS FOR THE DISADVANTAGED

PART I:

VOCATIONAL-TECHNICAL EDUCATION FOR DISADVANTAGED STUDENTS IN FLORIDA'S COMMUNITY JUNIOR COLLEGES

by

Lawrence Weisman

FINDINGS AND RECOMMENDATIONS

Florida's community college system has been developed with considerable autonomy permitted to the individual colleges. Such autonomy allows the colleges to be most responsive to the needs of the districts they are servicing. The term "needs of the districts" is used here to include the needs of the people, the needs of the community as a social group, and the needs of the community as our economic complex.

In serving the needs of its district each college also must consider its position in the educational community of the State. As publicly funded institutions, the colleges should not be in a position of competing for educational functions but, ideally, should be complementing the activities of the other institutions, both public and private, giving particular focus to its own district.

Another factor affecting the role played by the community colleges in Florida is that some (twelve of twenty-seven) are designated area vocational centers (AVC) while the balance are not. The AVC designation permits the college to provide secondary level vocational training while the non-designated schools generally are limited to post-secondary and adult training. Recognizing that disadvantaged students are at broadly varying levels of achievement, which, by definition, are predominantly low, the AVC designated college has a greater opportunity for placing a disadvantaged student at a starting level appropriate to his or her needs.

As a result of these and other variables, the roles of the community colleges in serving the disadvantaged should, and do, vary broadly.

In this study ten colleges were surveyed. These were selected on the basis of the following factors:

1. Two were selected from each of the five districts designated by the Division of Vocational, Technical and Adult Education.
2. Five of the ten are designated AVC's.
3. One primarily rural and one primarily urban school was selected from each district.
4. Developing and established schools of both urban and rural types were selected.
5. Schools reputed to be aggressively recruiting disadvantaged students were selected as well as schools which did not have that reputation.

Findings

Recommend that each community college should, through some procedure of its own choosing, define its role in serving the disadvantaged.

Of the ten colleges studied one had a clear picture of its role in serving the disadvantaged which was easily and consistently vocalized by various members of the staff. At five other colleges the interviewer was able to obtain a statement that had reasonable consistency. At the remaining four, the role could not be vocalized by the persons interviewed.

It cannot be said that these latter institutions had no policies; the actions of the institution, or the failure to act, may be manifestations of policy. The need is for the institution to examine formally its efforts in comparison with its philosophy to determine if there is consistency between action and intent.

The identification of role is precursor to the establishment of goals and objectives and these are the yardstick for evaluation. Goals are necessary to the process of planning and development. Only two of the colleges had established goals for serving their target populations and only one had evaluated progress in recruiting.

Recommend that community colleges seek out representatives of the target groups to aid in recruiting from their own ranks.

Six of the colleges had designated special, full-time personnel for recruiting activities. These individuals all had some apparent qualifications for credibility to the target group. Group membership, expressed attitudes, and, to a lesser extent, speech and appearance were considered. These "face value" judgments are appropriate to the nature of the recruiting role and to initial contact personnel in general. In positions where the contact is longer and more intimate the bases for credibility go far deeper. Several deans of student affairs remarked how black students, for example, would gravitate to a particular white counselor or how a black counselor attracted so many white students. Empathy, understanding, and effectiveness in dealing with the problems of a particular group are more important in building long term rapport than overt group membership.

"Hiring black" or Cuban or Indian or Chicano, as the case may be, for recruiting is not realistic if the person is chosen who most closely fits the institution's mold. What is needed is the person who can most effectively communicate with the target group. This may call for some revision of criteria or even of standards for the position. On the other hand, care must be taken to select someone who will not alienate the faculty. A delicate balance is needed; hopefully, the faculty as educated people will be able to adapt more than the target group, allowing the balance to be in the favor of group identification.

One college met this challenge by placing a group of students on College Work Study Program (CWSP) for purposes of recruiting. These are second year students and represent two distinct cultural groups. In operation just one year, they have recruited a sizeable number of students. They are under the supervision of a member of the guidance staff whose reputation is well established with the faculty. The student recruiters are selected from the hardest core of the target groups and, being second year students, they can say "I'm just like you and I'm making it. You could make it too if you would try."

Recommend that state licensing agencies review their licensing requirements to insure that skills and levels of skill required for licensing are consistent with performance required on the job.

Licensing ought to be based on the individual's ability to perform, not their ability to take an abstract test. Consideration might well be given to differentiating requirements for operators to requirements for supervisors, managers, and owners. This system is practiced in Europe where a high degree of professionalism is maintained in all of the licensed trades. In cosmetology, for example, tenth grade or equivalency is required. Justification for this level of competency was placed in the necessity of cosmetologists to read labels and to measure ingredients. A more relevant requirement might be to demonstrate ability to follow directions on labels and in measuring and mixing ingredients. The requirements and the educational process for meeting these requirements as they now stand tend to eliminate people with appropriate physical requirements but who lack certain cognitive achievement without considering their ability to learn the skills. This same kind of case could be built for Licensed Practical Nurse and other health related technologies.

Recommend that colleges expand utilization of placement tests and techniques that replicate occupational performance requirements.

"Hands on" evaluation and diagnostic testing procedures are not widely utilized in the community colleges. The only instrument in current use in the colleges visited which provide some manual dexterity testing evaluations is the General Aptitude Test Battery (GATB). The GATB falls short of the mark, however, since it does not have the capacity for testing intellectual and emotional stresses relating to different kinds of occupational tasks.

It is relatively simple, for example, to detemine if an individual has the perceptual motor skills necessary for electronics assembly work. But it is considerably more complex to determine if the individual has the emotional characteristics and attention span appropriate for a task that is repetitious and which also required continuous concentration.

Two programs have been established recently in Florida which appear to have good potential for providing vocational guidance to the low achiever. The first, Work Samples, has been set up by the Easter Seals organization in Tallahassee under the sponsorship of the Division of Vocational Rehabilitation. This program utilizes a standardized set of work stations under the supervision of trained observers. After two weeks of testing, scores are developed which relate to Dictionary of Occupational Title (DOT) codes. These scores include evaluations for manual dexterity, emotional balance, and intellectual ability. Clients, all of whom are below the ninth grade reading level, are placed into various educational facilities, or on the job, depending on results. The procedure could be modified and abbreviated for colleges desiring to use it for internal placement purposes or it could be kept intact as a community service program.

One community college visited has established a series of exploratory courses. If a student is interested in working in one of the health related technologies, for example, he can enter the health occupations exploratory program for one semester, acquire experience in a variety of related occupations, and receive credit from this program towards the program he ultimately selects. In this way the student can make a more intelligent choice. This program also provides the instructors and counselors with an opportunity to observe the student and enables them to give more valid career guidance.

The idea of "hands on" placement techniques is to evaluate the low achiever under circumstances that are relevant and non-threatening. In the preliminary study we observed that the low achiever does not abstract well and that because of a long history of failure he is test shy. One Florida educator (from outside the ten colleges visited) observed that many disadvantaged persons are deterred from enrolling by the requirement of having to take a guidance test even when the guidance tests are not used for mandatory placement.

Recommend that compensatory programs be offered on an optional basis only and recommend that learning laboratory facilities be expanded.

Remedial or compensatory courses under various names were mandatory at six colleges, optional at three, and included in regular programs at the tenth. This last college took the position that everyone was disadvantaged in one way or another and that remedial facilities should be open to all according to their needs.

The other nine colleges offered compensatory programs that were quite unique, one from the other, in combinations of organization and method and the personnel involved were quite enthusiastic about the programs. This kind of parental pride and enthusiasm fosters the best quality of teaching and the most dedicated teachers. Unfortunately, it also fetters objectivity. Only three of the ten schools had conducted any kind of study comparing success factors of students who had qualified for and taken remedial studies with students who had qualified for but had not taken remedial courses. One other school visited, for a pilot study, also had made this kind of in-house study. Each of these four studies showed that students who refused or avoided remedial studies not only had done as well or better than the ones who had taken them, but also had taken one less semester to accomplish their goal. No studies could be found to substantiate that students who had taken remedial studies did better than students who refused them. Counselors involved in these studies agreed that the loss of time and the loss of self-concept from having to take these courses offset the good that they produced.

These arguments do not justify eliminating special programs. Undoubtedly some students who take them and go on to succeed would not succeed without them. Many students lack confidence upon entering college and request remedial programs for "review" even though their aptitude scores qualify them for regular work. A number of counselors interviewed reported that this was especially true of veterans of the armed forces.

It can be concluded that it would be just as wrong not to offer remedial programs as it would be to make them mandatory. The optional approach allows for the individuality of the student; hopefully, the individual, in selecting the situation most comfortable for him, will have the best chance for success.

The second part of the recommendation calls for expansion of learning laboratories. Quantitative data is not available to support this recommendation and perhaps never will be. The basis for the recommendation derived from several observations: Students who refused remedial programs did as well as students who took remedial programs, even though they did not have special help. In some cases help was available, in some it was not. They succeeded in the face of prevailing faculty attitudes that they deserved to fail. The question must be asked, "How well could they have done if they had a more supportive climate, if facilities were available for help, and if they were encouraged to use these as the need arose?"

There is a generally accepted learning theory that students learn best when they have a need for the information. For example, a student takes a course in lathe operations and finds dimensions given in fractions and tolerances given in decimals.

He proceeds to the learning laboratory, picks up a unit on conversions, but discovers he is really weak in decimals. He then reviews a unit on decimals until he understands enough to work on conversions, then he completes the conversion unit. He learns more quickly and retains it better because he has immediate application for the knowledge.

Opponents of this kind of program could point out that it is expensive; and in terms of a single semester they would be correct, because it provides services in addition to the regular program. However, in terms of total outlay, it is less expensive for the state to provide a differential than it is to provide funding for an additional semester for the student.

Recommend that the state's community junior colleges develop ongoing product assessments of their programs for educationally disadvantaged students.

As stated earlier, the word "programs" means more than special courses of study. It is important to compare the progress of students who are being tutored with those using learning laboratories, with those receiving counseling support, and with those enrolled in regular programs.

It has been stated that evaluations are not being conducted by most of the colleges surveyed. It also has been stated that current remedial programs have not proved to be beneficial; available research indicates that they may even be defeating. Progress will depend upon valid, objective evaluations. The honest dedication of sincere, devoted teachers, ironically, is retarding the kind of quantitative analyses that need to be made. A frequent statement [synthesized] was that: "These studies just don't show the intrinsic good that the student has acquired even if he dropped out." We may agree, but on the other hand, they also do not reflect the discouragement suffered by these same dropouts.

In a system which is open, that is, where instructional alternatives are offered and students can move into situations which are optimal for them, evaluations can be used for advising students to shift when their situation appears defeating. Under these conditions all programs should have favorable success factors. When any program does poorly, it may indicate that modification of strategy is warranted, or the instructor may need reorientation, or the program simply might not be suitable for educationally disadvantaged people.

In a closed system, where only one or two strategies are utilized, the evaluation should be used more directly as an assessment of the efficiency of that particular system. Considered longitudinally, results of modifications can be assessed and should be recorded so that the program can evolve into a state of maximum efficiency. Evaluations should include control groups of students admitted into regular programs and should be conducted continuously or at short, periodic intervals. The basic program becomes the control when innovative programs are established.

Recommend that further studies be made of the nutritional needs of disadvantaged students in the community colleges and how these needs may best be met.

No community college surveyed had or was planning special programs to meet the nutritional needs of their disadvantaged students. In a study conducted at Polk Community College in 1967, 31.8 per cent of the students in the Guided Studies program had nutritional ratings of "Fair to Anemic." The effect of poor nutrition on ability to study and to learn needs little comment.

The point under question is whether or not it is adequate to provide food allowances in the total financial aid package, which is the common practice. Several factors tend to defeat the intent of the package. First, there is the pressure on the student to contribute to the support of the family. Second, there are the acquired eating patterns--generally high in "empty calorie" foods. Third, there is the pressure to make non-budgeted expenditures. Cake and coffee breaks, cigarettes, entertainment, cosmestics, and stylish clothing are vital to the mental health of the student in terms of his self-concept, vis-a-vis his concepts of his image in his peer group. Finally, the value systems of disadvantaged students and their lack of experience or training in the budgeting of money complete the digestive devastation.

Of the ten schools surveyed, eight reported that their staff was available to advise in matters of personal finance, if called upon; three had community agency resources for this purpose;

one had a brochure available; and three had a curricular course. One reported no personal finance counseling was available. The availability of short term loan funds and their utilization indicate that the services available were known and utilized by the students. Generally, these loans were for tuition, books, rent, and such necessities to which there are no alternatives. Counselors did not report students requesting help in getting meals; they were not aware of this matter as being a problem. Logically, it should be a problem. The question is, is the logic wrong, or are these students eating poorly but, through ignorance or pride, not reporting it?

Recommend that the Office of Education propose legislation to increase the monetary limits to the individual student which are placed on the vocational work study provisions of the 1968 amendments.

None of the colleges surveyed were utilizing vocational work study funds. One had tried to utilize them but found that the benefit did not warrant the effort. It was commonly agreed by the financial aid officers interviewed that $45.00 per month was inadequate to the needs of most of their applicants.

Recommend that state or county health agencies, in cooperation with the community colleges, make routine health services available to economically disadvantaged students and provide physical examinations for all low achievers.

Five colleges required physical examinations for matriculation, the balance did not require such an examination, or required only a statement of health signed by the student. Only one college reported that facilities were available to provide a free examination to prevent financial hardship. The examinations varied in comprehensiveness. Only two colleges had facilities for free or low cost medical treatment; two were planning to provide some facility.

Several prevailing attitudes were expressed which have denied adequate health care in the community colleges:

1. "These problems should have been caught somewhere along the line in the elementary and secondary schools."

This attitude implies first that the system is perfect, or can be made perfect so that none with disorders can slip through. Second it ignores the trauma, the exposure, and the bodily changes that occur as the individual develops.

2. "The community college is a commuting college therefore the community college students should use the family health resources."

For the general student body this is a practical solution. Provision of health services to the student body in general undoubtedly would raise the cost of attending significantly, tending to defeat the low-cost philosophy of these schools. Furthermore, the health care of indigenous students ought to be a community responsibility for, if these students are not trained, they will remain indigenous and either non-contributing or dependent members of the society. Therefore, it is recommended that the governmental health agencies be responsible.

3. "Our teachers make many referrals from observing the students' behavior."

Many emotional and physical problems can be observed by shrewd and observant teachers. Unfortunately, there are no statistics on "the one that got away."

Summarizing the argument for health care for economically disadvantaged students, it is simply good economics to invest a relatively few dollars to insure the success of these students and to protect the total investment already made, and being made, in their training.

Comment is made on the cooperation between the Division of Vocational Rehabilitation and the community junior colleges to benefit physically and emotionally handicapped people.

Counselors at every community college visited reported that they had excellent cooperation from the Division of Vocational Rehabilitation and their local representatives. Vocational Rehabilitation is provided for persons with a broad variety of handicapping disorders as shown on the accompanying letter from St. Petersburg Junior College (Exhibit A).

Recommend that the community colleges continue in their efforts toward the affective development of their students through intercultural understandings.

Each college visited was making a progressive and constructive effort in this area.

EXHIBIT A

ST. PETERSBURG JUNIOR COLLEGE
Clearwater Campus
Clearwater, Florida 33515

February 8, 1971

Mr. Lawrence Weisman
Division of Community Colleges
Florida State Department of Education
Tallahassee, Fla. 32304

Dear Mr. Weisman:

On Wednesday, February 3rd, you expressed a desire for breakdown of students on each campus of the college, currently attending, who have various disabilities and are part of the case load of the vocational-rehabilitation counselors. I had this information collected for you but did not receive a call.

Listed below are the figures given me by Mr. O. C. Mathews (Clearwater Campus) and Mr. Don Butler (St. Petersburg Campus).

	CL	SP	Total
1. Visual Impairment	8	5	13
2. Hearing Impairment	26	3	29
3. Orthopedic deformity or functional impairment	20	24	44
4. Absence, or amputation, of major & minor extremities	2	3	5
5. Mental, Psychoneurotic & personality disorders	20	32	52
6. Conditions resulting from neoplasms (i.e. Leukemia, etc.)	2	33*	63
7. Endocrine system (i.e. diabetes, etc.)	2		
8. Diseases of blood (i.e., Hemophilia, etc.)	4		
9. Cardiac (heart) cases	5		
10. Respiratory	1		
11. Disorder of digestive system	3		
12. Genito-urinary system disorders	2		
13. Disabling diseases	11		
14. Speech impediment	4	0	4
TOTAL	110	100	210

*Mr. Butler did not break these down as Mr. Mathews did.

If I can be of anymore assistance please feel free to call on me.

Sincerely,

Edward B. Cottrell, Director
Institutional Research

EBC:bjl

Recommend that the community junior colleges expand the orientations given to the general faculty and staff in the special characteristics and needs of their target populations.

On several of the campuses visited the concern and understanding of the entire staff regarding aid to disadvantaged students was apparent. On most campuses concern and action was concentrated in the counseling staff and a few faculty members who had specific assignments in remedial areas. On one campus the polarization of the faculty in their attitude towards disadvantaged was an open matter and a source of considerable frustration to the teachers of remedial classes.

There was wide diversification in the kinds of staff development programs that had been undertaken and their planning demonstrated that a great deal of creativity and understanding was involved. In terms of participation, however, most of the programs benefited primarily the counselors and only a small portion of the faculty.

Recommend that community colleges expand recognition of entry level skill attainment.

The need for laddering and for better articulation with county operated vocational programs both were discussed in last year's report. This year's study was focused more definitively on techniques and methodologies. In this area, no recommendation appeared necessary: many innovations and modifications are being attempted and the inherent nature of vocational training lends itself to the needs of educationally disadvantaged students. Performance based criteria, hands on experiences, individualized instruction, demonstrations, work experiences, relevancy are old standards for vocational education. One technique that has not yet gained wide popularity is computer assisted or managed instruction, yet, three of the colleges had implemented some form of CAI or CMI in at least one area of vocational training and one had plans for next year.

The areas of greatest need continue to be articulation and laddering. Several schools have begun to meet this latter need by issuing certificates showing hours of training completed when a student is forced to drop out. Where possible, they will give him credit when he reenters the program. One school gives credit by examination.

This system serves the most important intent of last year's recommendation, but there are incidental purposes that require structural curricular changes to fulfill. First, by formally identifying levels in the program, schools can take credit statistically for the successes they actually have, since these are more closely related to job placement. Second, such structural changes would facilitate students reentering their programs without loss of credit.

Another technique worthy of special mention was developed by one college: the institution of a one year certificate program in conjunction with the neighboring county-operated vocational-technical center. Those students whose needs are best met by a vocational level program but who desire to identify with the college, may take their shop courses at the vocational center and their academic courses at the college. The program is new and has enrolled only a few students, but it is valuable in offering counselors an additional alternative for the hard-to-place student.

Recommend that the legislature encourage the community colleges to provide greater flexibility in the time required for completion of vocational-technical programs.

This recommendation really calls for the development of funding formulas that will be more conducive to flexible start and completion times. Besides possessing differences in ability to learn, students come to vocational programs with varying levels of previously acquired skills. Both of these factors contribute to substantial differences in the time a student requires to attain the objectives of the course.

Economically disadvantaged people generally do not project plans in the way that middle class people do. As a result, training should be available when they are ready, at the time that they recognize their needs and are available to attend. Considering dropouts and accelerated completions, flexible entry times would benefit the state by allowing more efficient, continuous utilization of facilities.

Recommend that community college placement offices be staffed to provide follow-up services.

College placement offices tend to be innovative for the community college in Florida; most of the offices visited were recently opened and several schools do not have separate placement facilities. The majority of placements from vocational and technical programs are made through teacher referrals and a large proportion is made independently by the students themselves.

A strong case could be made to show that central placement offices are not needed; indeed, many leaders in vocational education feel that making their teachers responsible for placement gives them more responsibility for their product, and more responsiveness to changes in the industry. However, a central placement office need not eliminate current placement efforts, but, instead, should supplement them. At present, placements are too dependent upon local conditions. Central placement offices can provide broader geographic contacts which will minimize the impact of local fluctuations in demand for graduates. A central placement office also is in a better position to advise counselors and students on the total picture of career opportunities.

The device of follow-up studies services several functions. First, it provides the office with an opportunity to acquire current personnel market information. Second, it provides a basis for establishing and maintaining communications with employers. Finally, it provides more objective and systematic evaluations of the training product that is currently available. Of the ten schools visited only three had conducted recent follow-up studies and only two were planning to do regular follow-up studies.

Evaluation of Programs for the Disadvantaged:
Part I (Community Junior Colleges): Recommendations

Recommend that each community college should, through some procedure of its own choosing, define its role in servicing the disadvantaged.

Recommend that community colleges seek out representatives of the target groups to aid in recruiting from their own ranks.

Recommend that state licensing agencies review their licensing requirements to insure that skills and levels of skill required for licensing are consistent with performance required on the job.

Recommend that colleges expand utilization of placement tests and techniques that replicate occupational performance requirements.

Recommend that compensatory programs be offered on an optional basis only and recommend that learning laboratory facilities be expanded.

Recommend that the state's community junior colleges develop ongoing product assessments of their programs for educationally disadvantaged students.

Recommend that further studies be made of the nutritional needs of disadvantaged students in the community colleges and how these needs may best be met.

Recommend that the Office of Education propose legislation to increase the monetary limits to the individual student which are placed on the vocational work study provisions of the 1968 amendments.

Recommend that state or county health agencies, in cooperation with the community colleges, make routine health services available to economically disadvantaged students and provide physical examinations for all low achievers.

Recommend that the community colleges continue in their efforts toward the affective development of their students through intercultural understandings.

Recommend that the community junior colleges expand the orientations given to the general faculty and staff in the special characteristics and needs of their target population.

Recommend that community colleges expand recognition of entry level skill attainment.

Recommend that the legislature encourage the community colleges to provide greater flexibility in the time required for completion of vocational-technical programs.

Recommend that community college placement offices be staffed to provide follow-up services.

APPENDIXES

A. PROPORTION OF ENROLLMENTS OF BLACKS IN THE COMMUNITY COLLEGES AS COMPARED TO SECONDARY SCHOOL AGE BLACKS IN FLORIDA BY COMMUNITY COLLEGE DISTRICTS 173

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APPENDIX A

PROPORTION OF ENROLLMENTS OF BLACKS IN THE COMMUNITY COLLEGES AS COMPARED TO SECONDARY SCHOOL AGE BLACKS IN FLORIDA BY COMMUNITY COLLEGE DISTRICT

Community College	% Blacks Grades 7-12 in Community College District[1]	Est. % Blacks in Community Colleges[2]
A	30.4	20.0
B	28.5	13.6
C	20.2	9.0
D	14.6	7.0
E	13.9	3.3
F	23.2	9.5
G	29.9	15.0
H	22.4	13.8
I	22.9	8.0
J	25.2	15.0
Survey Total	22.2	11.7
State Totals	21.4	Unknown

[1] Source: Computed from data obtained from Bureau of Research Division of Elementary and Secondary Education.

Note: State population data is not appropriate because of: (a) the acute differences in mortality rates between whites and blacks, and (b) the immigration of white retirees.

[2] Data shown are estimates provided by each college surveyed.

APPENDIX B

UNEMPLOYMENT IN FLORIDA, FALL, 1970

Service Areas for Colleges Surveyed	Per Cent
A	2.35
B	2.36
C	4.06
D	4.06
E	3.07
F	7.0
G	4.49
H	5.1
I	3.47
J	4.75
Vocational-Technical Region	
I	3.3
II	2.5
III	5.0
IV	3.8
V	4.5
State	4.03

Source: Unpublished figures furnished by the Florida Department of Commerce, Division of Administration, Office of Research and Planning.

APPENDIX C

INTERVIEW PROFILE

Community College	President	Dean of Instruction*	Vocational Dean	Dean of Students	Counselor	Financial Aid Officer	Registrar	Recruit. Officer	Placement Officer	Instructor
A (AVC)	×	×	ND	×	×	×	×	ND	×	×
B (AVC)	×	×	×	×	×	×		×	×	×
C (AVC)	×	×	ND	×	×	×		×	×	×
D	×	×		×	×		×		×	×
E	×	Asst.		×	×	×		×	×	×
F	×	×		×	×	×		×		×
G (AVC)	×	×	×	×			×			×
H	×	×	×	×	×	×		×	×	×
I	×	×		×		×		×		×
J (AVC)	×			×			×			×

ND = Not Designated; to be appointed.
* = Unless otherwise indicated, this dean also supervises vocational-technical instruction.

EVALUATION OF PROGRAMS FOR THE DISADVANTAGED

PART II

VOCATIONAL-TECHNICAL EDUCATION FOR DISADVANTAGED STUDENTS IN FLORIDA'S AREA VOCATIONAL-TECHNICAL CENTERS

by

Robert Stroud

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INTRODUCTION

The sample for this study consisted of eight area vocational-technical centers selected to represent the five vocational-technical areas. Three of these centers were located in predominantly urban areas, two were in areas classified as urban-rural, and three were in predominantly rural areas.

Using the questionnaire developed by Mr. Weisman as a guide, structured interviews were conducted at the area centers. At each of the centers interviews were held with administrators, instructors, guidance personnel, staff, and students. Materials distributed for information (i.e., course schedules, brochures, bulletins, etc.) and reports prepared by the area centers were reviewed for content and purpose. Lastly, local residents were interviewed to assess their perspective of the area center.

Depending upon the perspective one has, the area vocational-technical centers can be praised or criticized. On the positive side:

(1) Most of the individuals who have been trained at the vocational-technical centers are now successfully employed because of the training they received.

(2) The administration, faculty, and staff at the centers, with very few exceptions, appear dedicated to providing quality education to all of the individuals who attend.

(3) The prevailing attitude at the centers is a desire to eliminate barriers and problems which prevent or hinder students from obtaining education and training so they can contribute more readily to the success of their life and the life of the community.

However, conditions do exist which detract from these good points. For instance, documented information on the actual number of individuals who have been trained and are now successfully employed is not available at all area centers. Information on a person's status within a month or so of graduation is available, but information to indicate the effectiveness of the programs over a longer period of time is not readily available.

Additionally, while the education is good for the individuals who do attend, many individuals in the community who would profit by participating in the training do not attend. Therefore, while there is a sincere desire to eliminate the barriers which discourage individuals from attending and completing programs at the area centers, several instructors and administrators lack adequate information about the problems which cause students to leave. In addition, a number of administrators and instructors are unfamiliar with remedial programs and methods useful in overcoming student learning handicaps.

For these reasons several recommendations have been made, and since this evaluation covers the area of disadvantaged, the recommendations are made with direct reference to disadvantaged individuals. For definitive purposes, in this study, "disadvantaged" includes any individual who because of any circumstance is denied the opportunity to develop his talents and abilities for his and the community's benefit.

TABLE I

LISTING OF PEOPLE INTERVIEWED AT EIGHT AREA CENTERS OR LOCATED NEAR AND AROUND THE AREA CENTERS

People Interviewed	Area Centers							
	1	2	3	4	5	6	7	8
Area Center Administrators	4	2	3	2	2	1	2	1
County Administrators or Staff	3	1	5	2	1	0	1	1
Area Center Staff (not mentioned elsewhere)	8	2	2	2	3	2	4	4
Guidance Staff	4	1	2	1	1	1	1	1
Remedial Instructors or Persons Assigned Task for Such Instruction	2	1	1	1	2	1	1	1
Instructors Teaching in Disadvantaged Programs	2	1	1	1	2	1	1	2
Other Instructors	2	2	2	2	4	2	7	5
Students	5	5	7	6	5	5	8	6
Community Members Not Associated with the Area Center	15	10	12	11	10	10	13	14
Totals	45	25	25	28	30	23	38	35

FINDINGS AND RECOMMENDATIONS

Recommendation: Establish definitive criteria for identifying disadvantaged and handicapped and educate those who will be using these criteria as to how they are to be employed.

The design of this evaluation required an investigation of programs for disadvantaged and handicapped. In the conduct of this investigation considerable confusion was found with regard to definition. Many individuals accounting for disadvantaged and handicapped listed only those individuals legally designated by Vocational Rehabilitation or other agencies legally empowered to declare an individual disadvantaged or handicapped. Great disparity exists between the number of individuals who are listed as disadvantaged and handicapped and those who are, in fact, disadvantaged or handicapped.

Recommendation: Institute effective programs for recruiting disadvantaged individuals by acquainting them with employment opportunities and the training available to prepare them for those opportunities.

Some efforts to recruit disadvantaged have been made. Letters have been sent to schools, churches, civic clubs, and other community organizations to inform community members of the availability of vocational-technical training. Radio, television, and newspaper publicity campaigns have been instituted.

To determine if these methods were successful, several individuals in the areas served by the vocational-technical centers were interviewed. A minimum of ten people not associated with the vocational-technical program were contacted in each of the eight areas surveyed. Many of those contacted did not know the vocational-technical program existed and many who did know lacked a clear understanding of what the programs could do for them or their community.

The sample taken was random; however, the lack of understanding and knowledge of the various programs leads to the belief that disadvantaged groups see and hear about the vocational-technical programs, but they hear only with the outer ear. They do not internalize what they see, read, or hear because they do not know, in their own mind, that they can participate. They do not realize that the training would be of benefit to them.

The following gives the most frequently received responses:

Could not afford the training.
Could not take off from my job to go to school.
Do not have the money to register.
Could not pass the entrance test.
Can't get to school because I don't have the money for a bus or can't put gas in the car.
Don't believe the program would help me.
Have children to take care of and don't know anyone who can take care of them.
My friends said the school wasn't any good.
Don't feel like going to school.
Can't read well enough to go.
Want to get paid to go.
Too much trouble.
Nothing there of interest to me.

Perhaps the best program of recruitment is not a program designed specifically for recruiting, but rather for orientation. Currently, three area centers are involved in conducting orientation programs for students in kindergarten through 12th grades. This orientation consists of an explanation of the training and skills required for various jobs and the rewards of work. Tours are conducted in the area centers and at actual job locations. Prior to and during the tours, students have the opportunity to discuss training and skills required for specific jobs with the students-in-training, staff, and faculty. In some areas this orientation is required for every student. This method of orientation can lower the number of individuals who could be classified as disadvantaged for they can gain a better knowledge of job requirements, training available to meet those requirements, and the satisfactions and rewards of certain jobs.

Yet, as good as some of these programs are, they do not reach everyone. Many people dropped out of school before such tours were initiated; others have no job skills for their particular ability. It is necessary to reach and train these people if they are to become contributing members of society rather than burdens to themselves and society.

In the centers visited only one aggressive campaign for the recruitment of disadvantaged was found. This program is a community effort sponsored by several community groups in coordination with the vocational-technical center to identify mentally retarded individuals, establish what they can do and enjoy doing, and then train them for that task. The principal ingredient of this program is individual attention. The people sponsoring and working in this program understand that these individuals need additional help, and the community has mobilized its resources to give them this help. Actual figures on successful job placement are not available, but preliminary information indicates a very high degree of success.

The same type of personalized services provided for the mentally retarded can be extended to other disadvantaged groups. All disadvantaged individuals need assistance in understanding what opportunities are available and how they can utilize them for their own benefit and that of the community.

Recommendation: Establish procedures to determine why disadvantaged individuals do not attend the vocational-technical centers and implement procedures to eliminate those reasons.

In the process of recruiting disadvantaged individuals certain problems mentioned by individuals in the field need to be considered. At four of the centers it was stated that some prospective students do not apply because they must take a test before they can enter a program. Guidance counselors gave specific examples of students who, because they had failed in past testing experiences in class, refuse to take a test for entrance. These students feel the test will eliminate them anyway therefore it is a waste of time.

These same counselors suggested a statewide guidance and orientation program. The aims of this program would be to guide students, inform them of their abilities and aptitudes, and eliminate the stigma of failure. No grades would be given, instead, students would be given only positive information to guide them to those areas where they would stand a better chance of succeeding. Furthermore, students would not be eliminated on the basis of a testing program. Testing would be utilized only when it could be determined by the counselors that it would serve as a positive experience.

Testing and evaluation devices should be used as an aid in guiding students to areas where they have a better chance of succeeding. Too frequently testing and evaluation devices are used, not for guidance, but to screen out individuals. Screening out may apply to certain limited areas of our society, but in education we are faced with the problem of bringing a huge number of people into the mainstream of life. The approach of screening people out coupled with failure to provide an individual with a satisfactory alternate course of action serves to destroy the very purpose of education. Authorities on testing agree that every test has a certain reliability. Beyond that degree of reliability its accuracy can deteriorate dramatically. When tests are used as a criterion for determining entrance into a program, some students who would succeed if they were admitted are eliminated before they can even try.

Another difficulty is the number of individuals who do not attend the center because of negative information found in recruiting brochures and general information publicized by area centers. Published information at all but one of the area centers contained statements such as:

> Come and learn the details of admission requirements.
> Cost of program - $50.00.
> Fee of $5.00 required with application.
> Student should possess a high school diploma.

Each of these may seem insignificant, but if these statements discourage a person from inquiring or applying to the center where he might be able to receive financial aid, or overcome lack of a high school diploma through G.E.D. testing, they are keeping the disadvantaged away and, in essence, are defeating one of the purposes of the center.

Recommendation: Establish procedures to determine why individuals drop out of programs at vocational-technical centers and implement procedures to eliminate these causes.

Lacking valid information that student dropouts profitted from the training they received at the area vocational-technical centers, the present dropout rate at the centers must represent a total loss of time and money for the student and the vocational-technical center. However, this is debatable because many students may have profitted from the programs at the centers even though they dropped out. Thus, an analysis of dropouts would serve two purposes: (1) to evaluate any gains made by dropouts through attendance in the programs, and (2) to assess problems which might be eliminated by the school or community so a greater number of disadvantaged individuals can be served and, in the process, move from the ranks of the disadvantaged. The following is presented in an effort to aid in the development of more meaningful information for meeting the needs of the disadvantaged and our society.

In a compilation of information from two different institutions the following reasons were given for dropping out of school:

Reasons for Leaving	Percentage of Dropouts
Work	31
Excessive Absences	18
Illness	14
Returned to High School	8
Moved	5
Did not fit program	5
Withdrew from High School and Vo-Tech	5

Other reasons given fell below the 2 per cent level.

The above information is very limited and gives little or no bases for definitive action. Counselors and teachers at all area centers could furnish more in-depth information about each student. An accurate analysis of the reasons for leaving should be made. **Is there something the school could do to prevent a student from leaving a program prior to attaining that degree of competence necessary to obtain and hold a job commensurate with his ability and talent?** Did the students leave because: they had children to care for and no child care services available that they could afford? they could not get to the center due to lack of transportation, public or private? the course of study did not meet their needs?

Some specific procedures now in effect at area centers which appear effective in overcoming part of the dropout problem are:

1. Establishment of child care centers to take care of children while students are in school. At present there is one child care center developed in coordination with a practical nursing program and another privately operated by a member of the school staff which is available to students at cost.
2. At one area center, a nonprofit corporation has been established for the accumulation and distribution of money to needy students. Most of the red tape currently involved in aiding students financially is eliminated.

Recommendation: Implement procedures for fuller utilization of existing facilities.

In the area of recruitment a number of problems present themselves. One of these is facility utilization. At some centers the belief prevails that more facilities are needed before active recruitment can begin; therefore, recruitment of disadvantaged at these institutions is limited or nonexistent. In addition, all facilities are not being used on an 8 a.m. to 10 p.m. continuous schedule. However, difficult problems do exist which hinder 8 a.m. to 10 p.m. operation. Two problems more frequently mentioned are: getting students to class at hours other than those now in effect, and finding qualified instructors for this time range.

Facility utilization studies need to be continued and the information obtained, along with information on improved methods of acquiring adequate staffing, should be made available to administrators. It makes little sense to recruit students when the belief prevails that physical facilities and instructors are not available to provide training.

Recommendation: Improve existing programs for upgrading the ability and understanding of staff, instructors, and guidance personnel in remedial methods and effective techniques of working with disadvantaged students. Establish a system which will compensate and recognize individuals who improve their ability and deal effectively with problems of the disadvantaged.

Discussions with staff, instructors, guidance personnel, and students indicate that much counseling and guidance takes place in classrooms through impromptu discussions with students and in other informal ways. Guidance personnel, administrators and staff at all area centers expressed concern that if they are to help resolve problems of disadvantaged students and prevent their leaving school before they obtain the necessary education and training to secure and hold satisfactory employment, they, themselves, need additional training. They were quite open in saying they needed and wanted more information about mental, physical, psychological, and social disabilities and the methods of working with individuals who have these problems.

While there are a number of individuals who are having serious problems because they lack information and training, some instructors, on their own time, have obtained information on specific problems of disadvantaged and have modified their programs to meet student needs in a more comprehensive manner. At one institution an instructor built some equipment with his own funds on his own time to work with brain-damaged students. At another center a group of instructors had regular meetings to develop methods of working more effectively with the disadvantaged. Other programs have been set up for working with disadvantaged individuals out of the school setting and in community programs. In one area a child care center was established and run at cost. However, because of the press of other obligations, many people do not have the time or inclination to become thus involved.

Current methods for encouraging personnel to develop or improve their ability to handle disadvantaged students' problems and needs are limited. Four of the eight county systems evaluated encourage this through staff development programs. Individuals who take part in these formal and informal training programs are rewarded by additional pay, release time, and advancement in grade. However, the other four counties visited have either extremely limited incentives or no incentives to learn more effective methods. Even more discouraging is the fact that in the majority of cases individuals are rewarded not for improved ability, but for course attendance only.

There are several individuals who are very dedicated and effective in working with and eliminating problems of the disadvantaged; one or more can be found at every center. Sometimes these people have had formal training, other times their ability to deal effectively with the disadvantaged comes from interest, dedication, and perception. Too frequently, these individuals spend extra hours and a good portion of their lives resolving problems without compensation proportionate to their ability, the amount of effort expended, and the return to the community. A means of identifying personnel possessing these abilities needs to be established and their efforts then should be rewarded and encouraged. Personnel who are effective in dealing with the problems of disadvantaged could be used as resource persons to aid and instruct other, not so successful, personnel.

Recommendation: Promote better cooperative, comprehensive planning at all community and governmental levels for improved efficiency in all areas of education.

The development of adequate vocational-technical training at all levels is being hindered by inadequate coordination and cooperation between individuals and institutions. At the writing of this report, only one of the eight area centers gave the impression of being seriously involved in cooperative, comprehensive planning to meet the needs of its designated area.

The stated aims of this program are:

1. To evaluate the needs of the area.
2. To evaluate the resources available to meet these needs.
3. To determine how all members of the community can work together to meet those needs with the available resources.
4. To establish definite goals for satisfaction of needs.
5. To establish objectives to reach the goals.
6. To assess the effectiveness of programs in meeting needs and revise programs to improve effectiveness.

However, at present this program is in serious difficulty, for many of the people responsible for its success do not seem to understand or appreciate the need for such an approach.

A key point of this program is "adequate and true representation of all community members." This is not being achieved for a number of reasons, two of which are intolerance and lack of understanding. Adequate, true representation of all members in the community is easier said than done. Often the member chosen to represent a minority group is not representative. When this occurs, the true needs of that community often are not taken into consideration.

Part of the problem is that some individuals in control refuse to listen or refuse to exert the effort to understand the ideas and concepts of community members. If, in fact, the purpose of vocational-technical training in the state of Florida is to meet the needs of the people who live in this state, then this refusal to listen, this refusal to exert the effort to understand the ideas and concepts of community members prevents the development of an effective vocational-technical education program, for these ideas and concepts represent the needs of the community. A program incorporating effective methods for fostering and encouraging cooperation by all individuals is needed.

Intolerance can develop from the fact that members of a community do not understand what resources are available and how these resources can be used to meet individual and community needs. Thus, educational programs to inform the people are required. The fact that individuals lack understanding is no reason to exclude them from the planning and decision-making process. If they are excluded, their chance of ever understanding is greatly reduced; when they are included, the chance they will understand and be able to devise or plan methods of meeting needs are greatly enhanced. The reasoning is: if they are included in the decision-making process, definite efforts will be exerted to help them understand.

The current state activity in accountability may be part of the answer. We have the capability to plan and thus prevent many problems from developing in future programs. Understanding and wisdom to use our available knowledge, technology, and abilities in a cooperative manner is encouraged through true accountability.

In-fighting among people from the community colleges and vocational-technical centers needs to be eliminated. Both of these areas are vitally needed and one is not more important than the other. Resources and facilities at each can be used for the development of individuals and the community. Competition for various programs and duplication of programs is wasted effort which could be channeled into more profitable programs for student and community development through planning, cooperation, and education.

Cooperative programs for educational parks can be part of the answer because educational parks meet the diverse needs of many different individuals at one location. Joint community-testing programs for the evaluation and guidance of those interested in the program also could be established. More cooperation at the community, county, region, and state levels is necessary.

Summary of Recommendations

1. Establish definitive criteria for identifying disadvantaged and handicapped individuals and educate those who will be using these criteria as to how they are to be employed.

2. Institute effective programs for recruiting disadvantaged individuals by acquainting them with employment opportunities and the training available to prepare them for those opportunities.

3. Establish procedures to determine why disadvantaged individuals do not attend the vocational-technical centers and implement procedures to eliminate those causes.

4. Establish procedures to determine why individuals drop out of programs at vocational-technical centers and implement procedures to eliminate the causes.

5. Implement procedures for fuller utilization of existing facilities.

6. Improve existing programs for upgrading the ability and understanding of staff, instructors, and guidance personnel in remedial methods and effective techniques of working with disadvantaged students. Establish a system which will compensate and recognize individuals who improve their ability and deal effectively with problems of the disadvantaged.

7. Promote better cooperative, comprehensive planning at all community and governmental levels for improved efficiency in all areas of education.

EVALUATION OF PROGRAMS FOR THE DISADVANTAGED

PART III:

VOCATIONAL-TECHNICAL EDUCATION FOR DISADVANTAGED STUDENTS IN FLORIDA'S SECONDARY SCHOOLS

by

Joseph A. Orr, Jr.

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INTRODUCTION

The ensuing study is based on extensive field research of the vocational and technical education programs for disadvantaged students in Florida secondary schools. A large volume of literature, written by several of the nation's most distinguished educators, sociologists, and psychologists, on the subject of educating disadvantaged persons, also has been reviewed. In addition, a careful study has been made of the findings and conclusions of other researchers as well as relevant data from the Florida State Department of Education, the U.S. Office of Education and other agencies on this topic.

A synthesis of the literature concerned with education in America discloses that philosophically and traditionally the public schools have the task of unifying the nation's diverse society without creating uniformity among its citizens. Whatever problems may be associated with such a complex demand and whatever the results of its efforts, the public school is most certainly a highly significant agency of socialization. With an ideological command to provide "education for all" and with the task of socializing children of broadly divergent backgrounds, the public school system already has accomplished a considerable portion of the job of assimilating and acculturating repeated influxes of immigrants, while allowing for the preservation of distinctive cultural heritages.

At the same time, however, the schools have only barely begun to meet the same needs for the significant, ever-increasing racial and ethnic minorities such as the Negro, Puerto Rican, American Indian, Mexican American, and the poor in general. They are the Americans whom sociologists and educators call "culturally disadvantaged," "deprived," "left-out," "high risk," and a score of other names that have become relative--meaning different things to different people. Regardless of the nomenclature, the research indicates that they are the children in our schools who are the least likely to succeed as they are organized today. Most often, they are described in the literature as native born, with at least nominal English as their native tongue, and with very shallow roots in the prevailing culture. They comprise the major problem facing the schools today.

These are the students that this report is about. They are the children that the writer shall call the "disadvantaged" and sometimes the "high risk." The "high risk" being those whose lack of money, very low standardized test scores, erratic school records and race/class/cultural characteristics, taken together, place them at a tremendous disadvantage with the preponderant mass of students in the public schools today, and mark them as "early school leavers." They are the students who are seen as long-shot prospects for success, but who, in some rare moment to someone who is observant, demonstrate some indefinable and unmeasurable quality which can be interpreted as a sign of strength--an indication of probable success.

This inquiry will undertake to find out what happens to students similar to those described in the preceding paragraphs after they enter the Florida secondary schools, specifically as they relate to the vocational and technical education programs. The following is a statement of the problem, the research design and rationale, and the findings, conclusions, and recommendations of the study:

Problem

This study is an attempt to determing through quantitative and qualitative research and analysis the extent and the nature of the impact of Florida's vocational and technical education programs on the economically disadvantaged secondary student. Particularly, the study relates to developments subsequent to the enactment of the 1968 amendments to the federal vocational and technical education laws and the implementation of the Florida State Plan for Vocational and Technical Education.

Research Design and Rationale

This is a field study of vocational and technical education programs in the public secondary schools of Florida and their impact on the disadvantaged student; it is both quantitative and qualitative and involves empirical as well as rational techniques. A combination of three data-gathering methods are employed in this study: Direct observation, Interviews, and Analysis of Documents and Records. A variety of data-gathering methods were used to allow for examination of subtle differences which otherwise would escape attention, such as that between private feelings and public behavior. In addition, the reliability of each data-gathering technique could be ascertained by comparison. Thus, the researcher was able to determine if the data provided by the State Department of Education and other agencies correlated with data gathered through direct observations and interviews. In other words, there are three ways to obtain information about people: by watching them, by asking them questions, and by examining materials that have been written by them or about them or by examining materials they use to perform a task. This study is a combination of all three approaches. Each approach has been utilized in both its structured (systematic) and unstructured forms.

The major empirical sources used in this study were:

1. An Inventory-questionnaire designed exclusively for this research. The rationale for this document is given in the General Study Design for this section of the report.
2. The VTAD 20 enrollment report for disadvantaged students for the school year ending June, 1970.
3. Reports and research findings of other researchers and agencies.
4. Other material from the literature relevant to this study.
5. A field study conducted by the researcher involving:

a. on-the-site observations
b. an analysis of documents and records in the schools and the State Department of Education
c. personal interviews with:
    (1) directors and supervisors of vocational and technical education programs
    (2) vocational and technical education instructors
    (3) vocational and technical education students
    (4) counselors--vocational and others
    (5) principals of schools housing vocational and technical education programs
    (6) State Department of Education officials

Extensive use also was made of resource people and materials located in other agencies in Tallahassee as well as in The Florida State University, Florida A & M University, the Department of Commerce, the Division of Vocational Rehabilitation, the U.S. Office of Education, the Urban League, the National Association for the Advancement of Colored People, and the Florida Education Association. The _Florida State Plan for the Administration of Vocational Education in Florida_ and the _1968 Amendments to the Vocational Education Act of 1963_ also were used as resources.

The qualitative study in this report is based on research activities in fifteen county school systems located in the five vocational and technical education areas of Florida. These school systems were selected for study because they have vocational and technical education programs that appear to be representative of the state's endeavors in this area of education. The fifteen school districts studied may be classified as follows:

1. Five small school systems.

2. Four intermediate school systems.

3. Six large school systems.[1]

The comprehensiveness of the research is reflected in the pupil population of the school systems that were studied. The combined pupil population of the fifteen school districts was 924,508, nearly two-thirds of the 1,428,069 students found in Florida public schools at the end of the first month of the 1970-71 school year. Five of the school systems are located in counties that have been designated as economically depressed and high youth unemployment areas by either the Department of Commerce, the state CAMPS Committee, or both. Vocational and technical education courses in the fifteen school systems varied from a minimum of two courses in one of the small counties to a multitude of courses in the large counties. Four of the nearly extinct black comprehensive high schools are located in these school systems and are included in the study because they have become unique. Five of the innovative, occupation-oriented junior high schools are located in these counties also. Three of these junior high schools were visited and their teaching materials, techniques, and facilities were examined. In other words, the fifteen school systems included in the study are a broad cross section and appear to be representative of the vocational and technical education programs available to the boys and girls of Florida.

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[1] *Florida's intermediate and large school systems do not lend themselves to classification as either rural or urban. All such systems serve a pupil population from both rural and urban communities.*

PERSONNEL INTERVIEWED IN SELECTED VOCATIONAL AND TECHNICAL EDUCATION PROGRAMS IN FLORIDA

School Systems	Size of System	Directors	Supervisors	Principals	Other Administrators	Counselors	Teachers	Students
1	**	1		3	3	5	15	25
2	**	1	1	3	4	4	12	30
3	*	1	1	2	3	2	6	12
4	*	1		2	4	3	8	18
5	*	1		2	2	1	4	10
6	***	1	2	5	6	8	22	40
7	***	1	1	4	5	7	18	35
8	***	1	1	5	4	9	21	38
9	**	1	1	3	3	5	14	22
10	**	1		3	6	4	9	16
11	***	1	2	4	7	8	23	34
12	***	1	2	6	5	10	25	43
13	***	1	3	8	6	13	30	47
14	*	1		1	2	2	2	8
15	*	1		2	3	2	7	12
Totals		15	14	53	63	83	216	390

The chart above shows the number and distribution of personnel interviewed in selected vocational and technical education programs. Numbers are used to represent the names of the school systems included in this study and a code indicates their size: * = small, ** = intermediate, and *** = large.

RECRUITMENT AND ADMISSIONS

Findings/Conclusions

The recruitment programs in the school districts where most of Florida's children live are designed, for the most part, to attract students who either come from middle-class homes or are middle-class oriented. The writer consistently was shown programs consisting of well organized and attractive slide presentations that are shown to students who are completing the ninth and tenth grades of feeder schools by some member of the vocational-technical education staff (usually the counselor or director). The presentations tell of facilities and course offerings, suggest standards and entrance requirements in a language--according to the literature and the writer's experience--which appeals mostly to students with a middle-class value system.

A study of the admission practices of these schools revealed that, as a rule, most students are admitted to the state's vocational and technical education programs on the basis of an "open door" policy--everyone will have an opportunity to try the program of his choice, so to speak. This egalitarian practice, however, is not the case in all of Florida's vocational and technical education institutions. Some school systems have established testing programs which are used to screen students and channel them into programs not necessarily of their own choosing, but into programs which tests indicate they seem to have an aptitude for. Of course, this practice is in line with the conservative point of view taken by the Florida State Plan for Vocational Education (6) which calls for training opportunities for ". . . persons who can benefit from such programs." This point of view seems to be the antithesis of the strong emphasis, throughout the plan, to provide opportunities for the disadvantaged. It raises the issue in this report, as it has in others: "How can we measure who has potential and who will benefit?" (26)

Again it was found that, primarily, the egalitarian practice of permitting "all who would try" to enter vocational and technical education programs of their own choosing (within the limitations of space and facilities) has been the prevailing policy in most of the state's vocational and technical education programs.

It now appears, however, that this rather liberal admissions policy has not been enough to attract and hold the "high risk" student as some vocational and technical education people hoped it would. On-the-site observations and interviews revealed that these students were, in a large measure, still on the "outside looking in." Further investigation also revealed that, in reality, they were not very interested in the vocational and technical programs that were seen from this most unfavorable position.

Obviously, present policy and practices are not enough to attract these students. It appears that these students can be recruited only when vocational and technical education institutions have well defined goals for providing opportunities for the disadvantaged, and are committed to an aggressive recruitment campaign. It must be reported, with regret, that most of the state's vocational and technical education institutions do not have well defined goals and policies relating to the "high risk" student, neither are they committed to aggressive recruitment campaigns to enroll them. Vocational and technical education personnel indicated a laissez faire attitude in most of the interviews that dealt with this topic.

Florida's apparent commitment to its disadvantaged, as specified in the state plan, can never be realized as long as its vocational and technical institutions assume a passive role in securing the success of these students. Vocational and technical education directors, instructors, and other personnel were asked directly why more was not done to fulfill the state's obligation to these students. Their replies varied from the disclosure of a lack of sensitivity to the problem to a lack of skill in communication techniques with this type of student.

A review of the literature accompanied by the opinions of Florida educators currently engaged in the education of the disadvantaged revealed that these students generally have become disillusioned by the time they become eligible for vocational and technical education programs. **Enrollment of this type of student requires special recruitment efforts.** Effective recruitment programs must include procedures for identifying the target population, identifying their special needs, and the use of credible communication channels. In addition, such programs must be simple, direct, non-patronizing, positive, and non-judgmental.

Recommendations

It is recommended that the state's vocational-technical education institutions develop and implement immediately well-defined and realistic goals and policies relative to the training of Florida's disadvantaged students.

It is recommended that the state's vocational-technical institutions organize and become committed to the aggressive recruitment of disadvantaged students especially those who, in addition to everything else, are classified as "high risks." Such programs must involve linguistic terminology which these students understand and must be communicated via media and persons who are credible to them.

It is recommended that:

a. The appropriate divisions of the State Department of Education develop and distribute a model program for the aggressive recruitment of the disadvantaged child into vocational and technical education programs as quickly as possible.

b. The Vocational and Technical Education Division of the State Department of Education explore avenues for cooperation and coordination in the development and conduction of recruitment programs of disadvantaged children into vocational and technical programs.

GUIDANCE

Findings/Conclusions

Since the area of guidance will be taken up in more detail in another section of the evaluation report, this report will be limited to some findings which may be enlightening as the topic relates to the disadvantaged child and which may not be covered in other sections.

Generally speaking, it was found that guidance services as they relate specifically and exclusively to vocational and technical education programs exist on a very limited basis. The only exceptions to this finding are the school systems that are involved in the area vocational center concept for secondary students. As a rule, it was observed that at least some guidance service, designed exclusively for vocational and technical education programs, is available in such centers. In some cases the guidance service in these centers was found to be adequate for the per pupil enrollment and in other cases it was less than adequate. This finding is based on a comparison between the actual pupil-counselor ratio in the school systems that were studied and the pupil-counselor ratio that is recommended by both Florida and the American School Counselor's Association as well as their parent group the American School Personnel and Guidance

Association. These groups recommend a ratio of 250 pupils per counselor.

It is in the state's school systems where vocational and technical education programs are located in the regular academic high schools that the guidance services appear to be far removed from the students who need or could benefit from counseling concerning vocational and technical education. For the most part the guidance services in these schools appear to be designed to meet the needs of college bound students. This finding is not only the result of on-the-site observations, but is also the result of numerous interviews with vocational and technical education directors, instructors, state officials, the counselors themselves, and a review of other reports. In short, there is a consensus of opinion among those interviewed that **the average counselor in the Florida secondary schools today does not appear to be as "vocational minded" as he should be.** As a result, many students who could have benefited from vocational-technical education either graduate or quit school without saleable skills that could have been theirs. The state must act quickly to correct this situation; otherwise, education in Florida will continue to be meaningless for a segment of the school population already of considerable size and growing.

It is hoped that Florida school systems will, at the very least, follow in the footsteps of one large urban school system visited which has instituted a year-long inservice vocational and technical education workshop involving counselors, curriculum assistants, and principals for the purpose of redirecting the very sad trend described in the preceding paragraph. This, of course, is not the only method or place where effort is being made to correct this problem, but it is one of the very few. Interestingly, sometimes only one individual school within a system has recognized the problem and taken steps to solve it while other schools in the same system proceed with "business as usual"--the business of being irrelevant to a considerable number of the students which it purports to educate.

The preceding statements are indicative of a serious situation. **The state's most ominous problem, however, lies in its woeful lack of guidance services which are meaningful to its disadvantaged and "high risk" students.** It is here the greatest "violence" is committed to the education of boys and girls and in the place which, for them, is their only hope for survival--the schools. It must be reported sadly that there were only a few instances where real sensitivity to the problems of these individuals was apparent. In these instances care had been taken by the school to provide:

1. representatives of ethnic groups in order that these students would find counselors who were credible communicators and with whom they could identify.
2. enough guidance services so that it was meaningful, available, and on-going.

3. counselors who were in empathy with the needs, problems, desires and aspirations of these children.

It should be obvious to school officials at this point that **we cannot make education meaningful to the disadvantaged until we convince them that they are being prepared for productive jobs and meaningful roles in society; apparently, this is not the case.** The usual guidance services which, for the most part, are insufficient to meet the needs of the better prepared and less deprived students, often are not available to the disadvantaged, and even if they were--seldom would meet their needs. Again, guidance services in schools these students attend must be readily available and easily attainable on the individual level as well as in small group guidance classes. It must be an integral part of the curriculum of the disadvantaged child and via communication channels with which he is familiar. It also must make maximum use of outside agencies such as the Public Health Services, Vocational Rehabilitation Department, Child Guidance Clinic, State Welfare Department, Juvenile Court and Probation Officers, and many others. Coordination with such agencies as well as volunteer groups and school ancillary services that affect their welfare is absolutely essential for maximum enhancement of these children who, through no fault of their own, have become "high risk" in our schools.

The previous comments are not intended to question the integrity of school officials presently involved in the guidance services of the state's schools. For the most part, counselors are very dedicated to their jobs. The point is that our guidance service has neglected vocational and technical education in general and the disadvantaged student specifically, not from a lack of integrity, but from a lack of sensitivity and knowledge about vocational and technical education programs already in our schools and about the disadvantaged student.

Recommendations

It is recommended that the guidance staffs of all vocational and technical education institutions and feeder schools reflect the ethnic composition of the student body to insure that all students will have access to communicators and advisors with whom they can identify.

It is recommended that the state's staff development program be expanded to include on-going workshops for the purpose of:

a. Helping counselors, curriculum assistants, principals and others to become more familiar with vocational and technical education programs and their implications for the disadvantaged child.

b. Helping counselors become more sensitive to the needs of the disadvantaged student.

It is recommended that sufficient guidance service be provided for disadvantaged students so that it is meaningful, available, and on-going.

It is recommended that the ability to empathize with the disadvantaged child be one of the major criteria for the employment of future guidance personnel.

It is recommended that the state's vocational and technical education institutions utilizing mobile counseling units continue this practice, and that such units be instituted in vocational and technical education institutions where they are not presently available. It is further recommended that these units be used in the recruitment of disadvantaged students into vocational and technical education programs.

TESTING

Findings/Conclusions

As a rule, most students are not required to take entrance tests to enter the state's vocational and technical education programs. However, it was found that some institutions in Florida use one or more tests to determine if students possess the learning potential for certain courses. We take issue with the school systems that promote this practice. **Such tests tend to limit the availability of certain vocational and technical education courses to students when it predicts that they have little chance to succeed in them.** Again, we raise the question which is of supreme importance to this report: "How can we measure who has potential, who will benefit?" Of course, these criticisms are not aimed at use of such tests for the purpose of guiding students into areas where they have the best chance to succeed. Such a practice should result in a positive effect on the student.

Mr. Lawrence Weisman observed in the preceding state vocational and technical education evaluation, and these findings concur, that testing has become education's most evil necessity. Some of its millstones are:

1. When used as predictors of success, they tend to be self

validating. There is psychological impact on the subject, either motivating or discouraging.

2. Their design frequently is not appropriate to the skill being tested. Group tests which are inexpensive and expedient must test manual skills in a cerebral way. Individual tests which could be designed to test specific skills are cumbersome and expensive to administer.
3. There are no really satisfactory group tests for learning potential. Again, it is a problem of economy. The tests in use in the institutions visited were primarily inventories of knowledge acquired.
4. Mass tests have cultural biases. Unless the biases can be adjusted, there are bound to be errors. (26)

To repeat, on-the-site observations and interviews with personnel resulted in findings similar to the preceding statements. In short, very little has changed since Weisman made his report last year.

There is a growing opinion among educators and psychologists that group tests for determining learning potential do not have high predictive validity in measuring capacity to learn for pupils whose cultural experiences differ significantly from those for whom the tests and norms were developed. It should be noted that learning potential measurement theory rests on comparing each child's score with norms of children in his age that are representative, other things being equal. But, when culturally dissimilar children are compared, using the norms of current standardized tests which are based on the scores of middle-class children, other things are not equal.

The evidence from cumulative research makes it clear that:

1. There are consistent differences in intelligence score distribution of disadvantaged and middle class pupils.
2. Cultural and personality differences do affect scores on learning potential tests to the extent that they become low in predictive validity when used for cross-cultural comparisons of capacity to learn.
3. The labeling of a child with a "permanent" stratification index is likely to affect his self-concept, goals, motivations, and achievements.

In addition, the question of inherent racial differences in capacity to learn is answered in strong negative conclusions in all reports of official scientific opinion, including the Journal of Social Issues and the Unesco international committee of sociologists, anthropologists, psychologists, and geneticists, which said in conclusion:

> It is now generally recognized that intelligence tests do not themselves enable us to differentiate safely between what is due to innate capacity and what is the result of environmental influences, training, and education. . . . In short, given similar degrees of cultural opportunity to realize their potentialities, the average achievement of members of each racial group is about the same. (9)

Recommendations

It is recommended that only tests which comply with the Standards for Education and Psychological Tests and Manuals as published by the American Psychological Association be used in the state's vocational and technical education institutions.

It is recommended that the use of learning potential tests as prerequisites for entry into vocational and technical education courses be restricted to use for guidance purposes only. Experience shows that such tests are culturally biased toward disadvantaged children. Consequently, they tend to limit the opportunity for these children to participate in certain vocational and technical education programs, for which they are otherwise qualified, because they do not score well on aptitude or intelligence tests.

It is recommended that the entire procedure for evaluation and assessment of the disadvantaged be reexamined by the appropriate division of the State Department of Education.

It is recommended that State Department of Education institute the use of personalized, face-to-face, "culture fair" tests for appraisal of the disadvantaged child's learning potential in actual or simulated learning situations.

Such tests yield better results when used to assess the learning potential of the disadvantaged, who have been exposed to an array of divergent and sometimes destructive forces, because they are not formal tests. They are not highly abstracted or verbal and, therefore, do not resemble conventional aptitude and intelligence tests. Additionally, they are more likely to be accepted by disadvantaged children who fear standard tests, having failed them too often.

These tests seek to penetrate what disadvantaged children cannot say, to gain an understanding of what he can do and learn, and to uncover latent signals leading to vocational choice. Such tests, for the most part, are bias free and are the only kind that should be used to assess the learning potential of the disadvantaged child.

FINANCIAL AID

Findings/Conclusions

Direct financial aid is available for disadvantaged students in the public schools only on a very limited basis. County school boards do not allocate funds in their budgets for this purpose; neither does the State Department of Education. However, some vocational and technical education institutions indicated that they were able to give aid to a few students on a limited basis because they had access to limited funds contributed for the most part by civic and religious organizations. This money was available to meet small emergencies encountered by needy students. Such funds rarely were found to have more than a couple of hundred dollars in them for the school year, and therefore could serve only as a token effort on the part of the schools to solve the financial problems often associated with disadvantaged students. Situations were described where such funds were used to purchase shoes, eye glasses, small amounts of clothing, and other small but needed items--as well as for the payment of shop fees in schools which assessed them.

Only a few situations were found where students were required to purchase books, tools, and uniforms. These items usually were supplied by the institution or, in the case of uniforms, were not required. However, in the vocational and technical education programs where students are required to purchase the items listed above, school officials gave assurances that students were not prevented from taking vocational and technical courses of their choice because of an inability to purchase necessary books, tools, or uniforms. The school personnel that were interviewed seemed to be in accord with a high-ranking vocational and technical education official in an area IV school system who stated that ways usually were found to provide for students who did not have the required funds to take a vocational and technical education course.

Several schools assess fees from their students for consumable supplies used by them in their training. When this procedure was questioned, some school officials expressed approval of the practice and stated that they thought it made the student more appreciative of the vocational and technical education training opportunity that had been provided for him. They seemed to think that people do not appreciate anything that is free. It is hoped that school officials who administer the academic programs will not begin to feel this way because if they do, nothing will be left of the state's intent to provide free public schools. In short, it is doubtful that the procedure of assessing fees for vocational and technical education courses has the positive effect of making students appreciative of their educational opportunities--not even with students with middle-class values. In any case, we question the procedure and call upon those who advocate it to furnish proof of their conclusions.

A search of the literature and review of the work of other researchers reveals nothing to substantiate this point of view. Also, over 90 per cent of the students interviewed on this matter stated that being assessed a fee for consumable supplies did not make them more appreciative of their vocational and technical education training. We are thoroughly convinced that this practice has a negative effect on the disadvantaged student--even when the institution either pays or waives the fee. This belief was confirmed by nearly all of the school personnel included in this study. Such a practice does absolutely nothing to enhance the disadvantaged child's concept of himself.

Although direct financial aid for disadvantaged students exists only on a limited basis in a limited number of institutions, some of the programs provided by the state and federal government have the effect of serving as indirect aid to them. Most of Florida's disadvantaged students benefit from the free or reduced price school lunch program. Bus transportation is provided for nearly all students who live two miles or more from the schools they attend--the disadvantaged included. Also, school systems utilizing the area vocational and technical education center concept nearly always provide transportation for its vocational and technical education students from the academic centers--again, the disadvantaged students included. Work programs such as the National Youth Corps, Work Experience Program, and the Work Study Program are available to some of the state's disadvantaged children. However, these programs are limited in scope and are available to only a small percentage of the students who could benefit from them. These programs will be discussed more fully in another section of the report.

Recommendations

It is recommended that the state provide sufficient funds to vocational and technical education institutions in order to eliminate the practice of assessing student fees for consumable supplies used in their training.

It is recommended that the state provide sufficient funds in order that vocational and technical education institutions can provide each student, free of charge, all of the items necessary to complete the training in the vocational and technical education program of his choice (books, tools, uniforms, transportation, etc.).

It is recommended that the state provide each vocational and technical education institution with sufficient funds in order that it may meet small, emergency needs of its disadvantaged students in the form of loans and direct allocations. Such funds have been known in many instances to help students remain in school until they could complete their vocational and technical education training.

It is believed quite firmly that the state has an obligation to honor its intent to provide free public education to all of its boys and girls.

HEALTH AND MEDICAL REQUIREMENTS

Findings/Conclusions

It was encouraging to find that in almost every instance interviews with school officials revealed at least some kind of procedure for referring individuals with significant, chronic, medical, dental, or emotional disorders to the Vocational Rehabilitation Department as well as other state and county agencies concerned with public health.

In addition, it was found, as a rule, that most vocational and technical education students are not required to have physical examinations prior to entering vocational training. However, this does not include students who are enrolled in vocational and technical education programs such as health and related services, cosmetology, child care, barbering, and, in some cases, food services. In short, other than the courses listed or those which are similar, a physical examination is not required for matriculation and, in most cases where proof of good health is required, the usual health card (X-ray of the lungs and a blood test revealing satisfactory results) is sufficient to satisfy the requirements. Such cards usually are obtained from county or state public health clinics or from a private physician at the student's expense.

It is believed that the requirement of physical examinations as a prerequisite to entry in certain vocational and technical education courses should not be at the student's expense. Such a procedure tends to discriminate against those students who cannot afford the examination by eliminating them from entry into courses in which they are otherwise qualified to enroll. In short, it tends to screen out children who are economically disadvantaged. School boards should allocate funds in their budgets to pay for medical examinations of students thus eliminating an additional hardship on the disadvantaged student who is the least able to afford a medical examination and the least likely to pay for one. In any case, to pursue the matter of how courses carrying fee requirements affect the disadvantaged child would be redundant, since this topic has been discussed more fully in a preceding section of this report.

However, let us look at another aspect of this problem and how it affects the education of the disadvantaged child--a problem in health which illustrates the need for the state to provide free medical service in its schools.

There is a high rate of illness and malnutrition among the disadvantaged. Many are ignorant of good health practices and are unable to pay for any type of medical care. Medical and dental checks often show a large number of these children who have not brushed their teeth or bathed regularly.

A large number of these children also are improperly and irregularly fed. They go to bed hungry, they get up hungry, and they go to school hungry. They do not know what it means to go for one day with a full stomach. In many cases their only complete meal is obtained in school.

One study of disadvantaged children indicated that a large percentage of them had no access to milk except that served with their lunch in school. Another study revealed that many of the children received no vegetables or fruits in the Vitamin C category, and that more than half were suffering from vitamin A deficiencies. In short, a large number of the children were suffering from one form of malnutrition or another: gum or tongue conditions, bone disease, acne, tooth decay, for a few examples. Thus, there is a common denominator among these children: little or no medical care, not enough proper food, and very often not enough clothing. (21)

The outcome of the problems cited in the preceding statements is apparent. The majority of these youth will leave school at an early age. Sexton found in her study that the dropout rate for disadvantaged urban children was six times higher than that of middle-class children. Rural areas have an even higher dropout figure. (19) The question is: **"Can we educate hungry and medically uncared for children?"** It is one of the major questions that Florida and the nation must answer, and quickly, for, indeed, time is running out.

Recommendations

It is recommended that funds be allocated in the school budget to pay for physical examinations when they are required for entry into vocational and technical educational programs. Such expenses should not be the burden of the student, particularly the disadvantaged one. It has already been noted in a preceding section of this report that such practices tend to eliminate these children from those vocational and technical education courses that require the expenditure of funds for entry.

It is recommended that the state provide free medical and dental services in its schools for children who need such care. Children who are ill and in need of medical and dental attention cannot be educated effectively.

It is recommended that the state institute a free and reduced price breakfast program similar to the lunch program already established, for those children who are classified as disadvantaged. Children who are hungry and who have not been properly fed cannot be educated effectively.

STAFF ORIENTATION

Findings/Conclusions

It was found that staff development programs designed to enlarge upon and improve the attitudes and conduct of vocational and technical education personnel regarding the learning and behavior styles of the disadvantaged student exist on a very limited basis. On-the-site study and interviews with vocational and technical education personnel revealed that most of them do not have access to college courses and in-service education intended for development of:

1. A positive attitude towards the learning potential of the disadvantaged student.
2. An understanding of the psycholinguistic patterns of the disadvantaged student.
3. An understanding of the environmental and social impediments to learning experienced by the disadvantaged student.
4. An appreciation of the historical and cultural contributions of disadvantaged racial and ethnic groups.
5. An appreciation of current cultural patterns of the disadvantaged student.

Vocational and technical education personnel for the most part have been left to muddle along in an area of education for which they have had very little understanding or feeling, under the assumption that they understood what they were doing. For many of them it has been a long, frustrating, and costly experience for both themselves and their disadvantaged students.

Very few instances were found where workshops, seminars, and consultants were employed for the specific purpose of improving the effectiveness of vocational and technical education instructors, counselors, and administrators in the education of disadvantaged students. In addition, funds and released time for staff members to improve their effectiveness with these students via college courses and professional meetings have been even more restricted.

On-the-site observation and interviews with both teachers and students clearly indicate that **teacher education at both the pre-service and in-service levels must be modified and, in most cases, be instituted, if the state is to recruit, train, and retain good teachers who have know-how, insight, and commitment to extend educational opportunities to disadvantaged children.**

It is not the intent of this report to belabor the middle-class teacher for having middle-class values but, rather, to emphasize the need for teachers with the capacity and sensitivity to learn about and understand the lower class culture, especially where it conflicts with the culture that permeates our schools--vocational and technical education institutions included. In other words, even when the teacher may, in fact, be unprejudiced, unless he has understanding and insight into the culture of the disadvantaged student and can accept the student's right to his own culture, he will not be able to serve effectively. Both the teacher and his student may become victims of the "self-fulfilling prophecy"--the concept that one person's expectations about another's behavior may contribute to what that behavior actually will be. (17)

Recommendations

It is recommended that the state provide pre-service and ongoing in-service education designed to develop skills and techniques essential to teaching the disadvantaged child. Such programs should include help with diagnostic and remedial procedures, with methods and materials for individualization of instruction, with strategies for classroom control, and should provide personnel and material resources.

It is recommended that the state provide vocational and technical education personnel with funds and released time for advanced study, research, and attendance to professional conferences, workshops and seminars which involve educating the disadvantaged student.

Teacher education in the state of Florida must offer experiences which will help the teacher in both preparation and in-service to modify his behavior and attitudes for the sake of his pupil's healthy development and successful learning. Teachers interviewed reported that, overall, they have not received enough preparation along these lines, and until this occurs, they will be unable to truly teach the disadvantaged student.

CURRICULUM, INSTRUCTION AND INSTRUCTIONAL MATERIALS

Findings/Conclusions

It was found that, in most cases, very little had been done to modify and adapt curriculum offerings in vocational and technical education institutions to the learning style associated with most disadvantaged students. Examination of instructional materials revealed little evidence of revisions designed to accommodate for the lack of reading and computation skills that usually accompany these children into the state's classrooms. In addition, little evidence could be observed that vocational and technical education instructors modified their teaching techniques to any extent when they were instructing disadvantaged students. In other words, very little remediation of the learning problems associated with disadvantaged students was observed.

Interviews with vocational and technical education instructors disclosed that a few instructors were hostile to the idea of revising their courses to meet the special needs of the disadvantaged students in their classes. They referred to any such procedure on their part as "watering down the course." As a result, it is believed that **disadvantaged students do not select certain vocational and technical education courses because they feel that some instructors teach them on a "sink or swim" basis.** The preceding opinion was corroborated via student interviews. It also was found that some instructors taught their courses in this manner because they were unaware of the need for remediation and compensation in instructional techniques and materials utilized with disadvantaged students in their classes. In short, they were insensitive to the needs of these children. Student interviews revealed that the effect on the disadvantaged was the same as it was when the teachers were hostile to revising materials and procedures. However, it was found commonly and consistently that most vocational and technical education personnel were aware that at least some of their course content, materials, and teaching techniques were in need of revision in order that they might better serve their disadvantaged students. Some instructors admitted freely that their major problem in this situation was either that they lacked the time to revise their courses or they did not know how to revise them. The latter problem is understandable when consideration is given to the educational background of some vocational and technical education teachers, for many of them have very limited backgrounds in methods and materials in education. Practically all of the teachers that were interviewed stated that they would welcome help from other sources in revising their courses and teaching techniques as they pertained to disadvantaged students.

It also was observed that vocational and technical education instructors made only limited use of innovative teaching techniques and materials such as team teaching, instructional modules, multi-media, and materials containing simplified content.

No evidence was found of the use of computer assisted instruction or computer managed instruction in any of the centers studied. In short, **innovative instructional alternatives appear to be in limited use in vocational and technical education institutions at this time.**

Fortunately, however, there were some skill-oriented courses available in most instructional programs in the vocational and technical education centers studied. These courses required only minimal academic preparation and, of course, in most instances, represent the vocational and technical education center's efforts to provide for the vocational needs of disadvantaged students as well as other students who are interested. Naturally, these were the courses which contained a high percentage of disadvantaged students. A careful survey of Vocational, Technical and Adult Education enrollments for the year ending June, 1970, corroborates this statement.

Most vocational and technical education courses are easily adaptable to teaching and learning alternatives such as individualized instruction and research, learning via experiential situations, and learning from demonstrations as well as audio visual aids. In general, most vocational and technical education instructors observed employed these techniques to some degree. However, it was noted that the success of these techniques varied with the skill and diligence of the individual instructors using them.

Only a few vocational and technical education programs were found which were designed specifically for and sensitive to the attitudes and cultural needs of disadvantaged students who were members of minority groups. Indeed, most of the vocational and technical education instructors observed appeared to pay little or no attention to the student's perception of himself during the teaching process. Textbooks, courses of study, and other materials were examined to see if they were well balanced and integrated in their treatment of different ethnic and racial groups. Unfortunately, most of the instructional materials examined were neither well balanced nor integrated in this sense. Consequently, the materials appear to contribute to the negative self-concepts and identity problems already possessed by many disadvantaged students.

Couple this situation with the teaching process described in preceding sentences and the resulting effect is a failure to consider the cultural conditioning which influences the disadvantaged student's responses to the teaching-learning experience. In other words, many vocational and technical education instructors fail to use techniques and materials which can build on the strengths of the life style of disadvantaged students and do little or nothing to assist them in affective development.

Recommendations

It is recommended that the State Department of Education organize

workshops, seminars, and college courses for the purpose of assisting vocational and technical education instructors with course revision (methods and materials) to accommodate the special learning needs and style of the disadvantaged students.

It is recommended that vocational and technical education institutions throughout the state utilize more freely innovative instructional techniques and materials. It is hoped that these practices will improve both the quality and quantity of instruction now available to Florida secondary students--disadvantaged students included.

It is recommended that, wherever possible, vocational and technical education instructional materials and teaching techniques reflect the multi-ethnic nature of the pupil population of our nation. The attitudes and cultural needs of the disadvantaged student should receive special consideration in this procedure.

PLACEMENT

Findings/Conclusions

A study of the placement procedures of vocational and technical education institutions revealed that most of them have no clear procedure for securing employment for their students when they have completed their vocational and technical education training. For the most part, vocational and technical education instructors perform this task on their own time--usually after school and on the weekends. Personnel who were interviewed stated that they secured employment for 50 to 75 per cent of their students. Other students secured their own employment--sometimes in jobs unrelated to their vocational and technical education training. Of the fifteen vocational and technical education programs studied, only one school system had a vocational and technical education program that included a placement service. The vocational and technical education director in this urban school system stated that the school's placement service secured 90 per cent of the jobs for their students. School personnel titled "school industry coordinators" were responsible for this task. The director also pointed out that 1,295 of their vocational and technical education seniors already were working part time in industry on jobs directly related to the training they were receiving. These students are expected to go into full time employment on their jobs as soon as their training is completed.

Recommendations

It is recommended that each school district establish a placement service to secure employment opportunities for the vocational and technical education students of that system who have completed their training. It also is recommended that a proportion of the jobs secured by this service be reserved for disadvantaged students. Disadvantaged students often do not have the "know how" and enterprise to secure employment in the skill for which they have been trained.

It is recommended that each vocational and technical education center establish provisions for group and individual guidance in order that all vocational and technical education students may learn techniques in securing and retaining employment. This program should have special features to accommodate the peculiar needs of disadvantaged students.

JUNIOR HIGH SCHOOLS

Findings/Conclusions

A representative sample of the state's junior high schools were included in this study of vocational and technical education and its relation to disadvantaged students. On-the-site observations and interviews with junior high school personnel as well as examinations of course outlines and instructional materials revealed that, for the most part, Florida's junior high schools offer industrial arts to the students in their care. This finding was confirmed by way of a careful survey of Vocational, Technical and Adult Education enrollments for the year ending June, 1970 for students in grades seven and eight. With the exception of the junior high school programs that have been classified as exemplary, most of the course offerings found at this educational level were in the context of a traditional industrial arts program. The preceding comments are not intended as criticisms of the state's junior high industrial arts programs, but rather as observations made during on-the-site study and in interviews. Some of the industrial arts programs that were observed can be classified as excellent.

However, it does seem unusual that industrial arts education is not included under the jurisdiction of the Vocational, Technical and Adult Education Division. The Florida House of

Representatives' Special Vocational Education Subcommittee expressed similar feelings and made the following recommendation in its March 2, 1970, report:

> Industrial Arts Education should be removed from the Elementary and Secondary Division and placed under the Vocational Education Division. Under the present organization industrial arts units are not eligible for increased state funding as a vocational program in spite of an obvious functional tie to vocational education. Such units should be funded at the same rate and under the same conditions as vocational education units. In addition, industrial arts teachers, through in-service training, should be acquainted with vocational career opportunities.

These findings are in agreement with this recommendation, therefore, it is included as a part of this report. It appears to be logically consistent and should be implemented.

In general, it was found that these programs had been greatly expanded. However, except for some course offerings that could be classified as innovative, the teaching techniques and instructional material usually were not. The extension and expansion of the junior high school Work Experience Program is included in the innovative category. **Cooperative education at this level meets a real need of certain disadvantaged children who are classified as "high risk" students.** This topic will be discussed more fully in a subsequent section of the report.

Although this investigation found no industrial arts programs specifically designed to meet the needs of disadvantaged students, the program has grown significantly in terms of types of courses offered and numbers of children served. Indeed, the state's junior high schools, which offer occupation-oriented courses, appear to provide hope for the development of meaningful curriculum for disadvantaged students. These programs, classified as exemplary by the State Department of Education, represent the most innovative vocational-technical secondary education programs that were examined. An on-the-site study was made of two of the state's exemplary junior high centers: Booker T. Washington Junior High School in Dade County and E. Dixie Beggs Educational Center in Escambia County. In addition, the educational program at the Clearwater Comprehensive Junior High School also was included in our on-the-site study. This Pinellas County institution was found to be equally as innovative as the state's exemplary centers, although it is not classified as such.

A description of the educational programs of these innovative schools can be found in the Council's 1969-70 evaluation report. The programs at these institutions remain basically the same as last year with the exception of some minor operational procedures. Further elaboration can only be redundant since the programs were described in detail in the report of last year.

In concluding this portion of the report, let it be noted that it is not the intent to evaluate the state's junior high programs classified as exemplary. They have been examined because the organizational patterns, teaching techniques, instructional materials, and facilities that are being developed in these institutions seem to offer much hope for educating disadvantaged students in the future.

Recommendations

It is recommended that Industrial Arts Education be removed from the Elementary and Secondary Division of the State Department of Education and placed under the Vocational Education Division. Moreover, units in industrial arts should be eligible for state MFP funding on the same basis as vocational education units. Industrial arts teachers, through in-service training, should be acquainted with vocational career opportunities.

It is recommended that Florida junior high schools begin offering occupation oriented courses similar to those now being offered in the state's exemplary programs. Such programs should enable students to enter the world of work in the event they must become early school leavers.

THE WORK EXPERIENCE PROGRAM

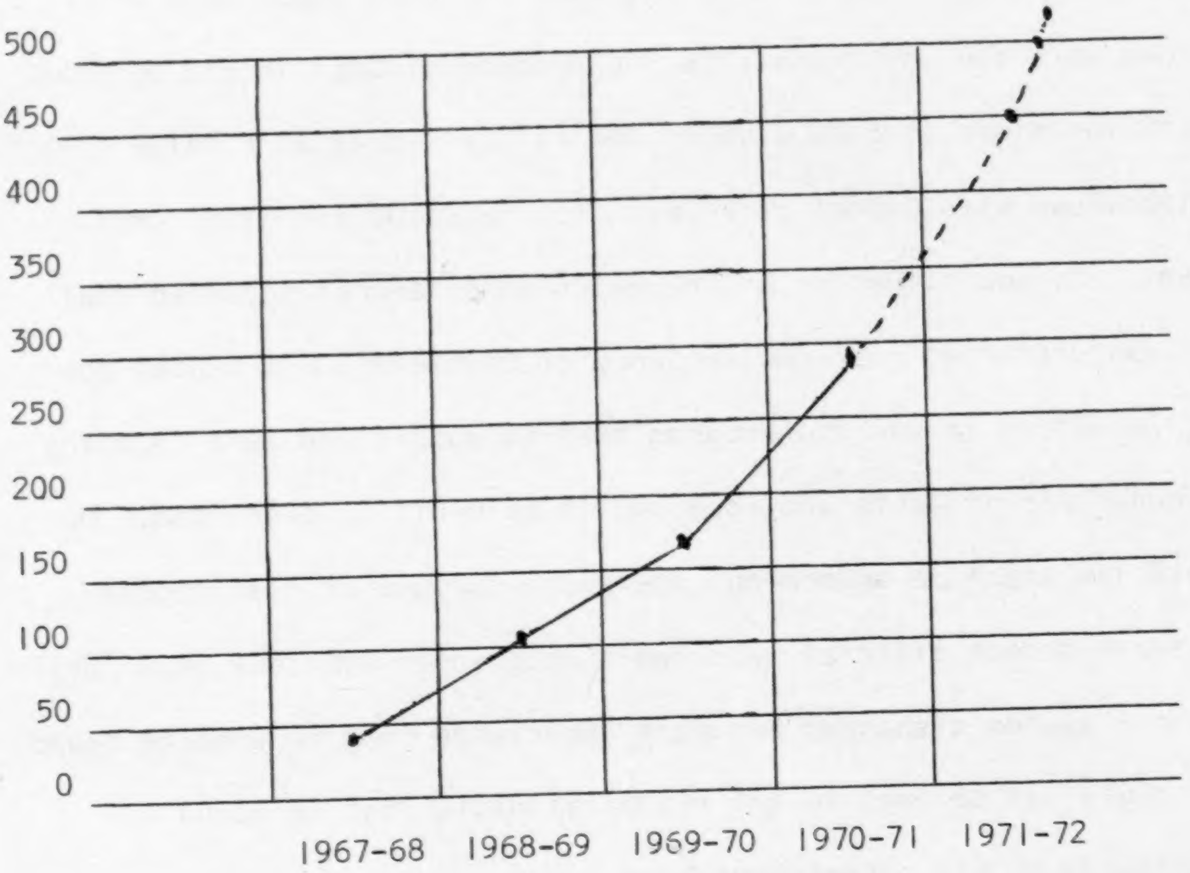
The Work Experience Program is included in this report because of its significant role in the education of "high risk" disadvantaged students. The program was designed for the potential school leaver. It is preventative, preparatory, and sometimes remedial in nature. The program is preventative in that it encourages students to remain in school by providing relevant education which tends to lessen the dropout rate. It is preparatory in that it gives employability skills through employer-employee relations and actual work experience, and helps the individual in acquiring a basis from which to choose a vocation. The program permits students, age fourteen and over, in grades seven through ten, to earn money in a supervised school program, which often is necessary for many students to continue their education. The program is basically for disadvantaged students. (28)

The program has experienced phenomenal growth in the last five years. It has increased from 9 programs throughout the state in 1966 to 286.5 programs in 1971. A State Department of Education official informed the writer that his office expects to have about 656 programs established throughout the state by 1972. A chart showing the distribution of Work Experience Programs can be found at the end of this report.

Interviews with most school officials and work experience teachers revealed a high degree of satisfaction with the program. Unfortunately, in many school systems the Work Experience Programs were the only answer to the problem of what should be done with the disadvantaged student who is classified as a "high risk." Interviews with school officials also revealed two other problems. In one situation a work experience teacher reported that he was disturbed over the tendency of counselors and school administrators to use the program that he supervised as a "dumping ground" for students who appeared to be mentally disturbed. He said the practice undermined the whole purpose of his program. A state school official reported that a superintendent in a rural school system disbanded his Work Experience Program when he found it could not be used to get rid of students that he found undesirable in his school system.

Again, most school officials reported a high degree of satisfaction with the Work Experience Program. This, we are convinced, accounts for the high number of requests for new programs which will lead to more than double the number now in existence by the 1971-72 school year.

The following graph represents the program growth from 1967 through 1972:



No. of Programs	46	104	166	286	Over 500
% of Programs		126	167	138	

This graph shows that there has been a steady increase in the use of Work Experience units since 1967 with the curve becoming steeper especially since 1970.

WORK EXPERIENCE PROGRAMS BY COUNTY

1970-1971

County	No.	County	No.
Alachua	2	Lee	2
Baker	0	Leon	9
Bay	1	Levy	0
Bradford	0	Liberty	.5 (½)
Brevard	6	Madison	0
Broward	26	Manatee	3
Calhoun	0	Marion	5
Charlotte	1	Martin	4
Citrus	0	Monroe	2
Clay	0	Nassau	0
Collier	1	Okaloosa	2
Columbia	6	Okeechobee	0
Dade	80	Orange	21
DeSoto	0	Osceola	1
Dixie	0	Palm Beach	18
Duval	15	Pasco	3
Escambia	2	Pinellas	17.5
Flagler	0	Polk	6
Franklin	2	Putnam	0
Gadsden	0	St. Johns	0
Gilchrist	0	St. Lucie	3
Glades	0	Santa Rosa	2
Gulf	0	Sarasota	8
Hamilton	.5 (½)	Seminole	2
Hardee	0	Sumter	0
Hendry	0	Suwannee	0
Hernando	0	Taylor	0
Highlands	0	Union	0
Hillsborough	23	Volusia	12
Holmes	0	Wakulla	0
Indian River	0	Walton	0
Jackson	0	Washington	0
Jefferson	0		
Lafayette	0		
Lake	0	TOTAL	286.5

WORK STUDY PROGRAM

This program has been included in this report for the same reason that the Work Experience Program was included, i.e., it, too, has played an important role in the retention of "high risk" disadvantaged students in the secondary schools of Florida. The program is adminstered by the Vocational, Technical and Adult Education Division of the State Department of Education via a grant from the federal government.

The sole purpose of these funds is to provide money for the state's local school systems and colleges to employ disadvantaged vocational education students who are having financial problems, and who consequently will have to drop out of school because of them. In short, the program is preventative in nature. Proponents of the program who were interviewed stated that it produces other constructive effects in addition to that already cited. Like the state's Work Experience Program, **the Work Study Program's main purpose is to provide an opportunity for disadvantaged students who qualify to earn money in a supervised work program.** Adjunct to this purpose, the program has helped many of these students develop personality characteristics such as dignity, self-respect, and self-reliance; and, equally as important, it has helped disadvantaged students remain enrolled in vocational and technical education programs.

The Work Study Program has not undergone rapid growth such as that of the Work Experience Program. State and County school officials who were interviewed indicated a belief that its slow growth was mainly because of two reasons:

1. The program has received only minimal financing. Actually. not enough money has been available to fund fully the requests that were made by local school systems.
2. The program calls for matching local funds. State officials believe that this requirement has inhibited county officials from making requests for funds to operate Work Study Programs.

In any case, less than one-third of the county school systems made requests for funds last year and approximately two-fifths made requests this year. The chart accompanying this report is a breakdown of the requests made by the county school systems and the resulting allocations made by the State Department of Education.

Recommendation

It is recommended that Work Study Programs be established in all of the state's school districts. Moreover, the State Department of Education should introduce action to secure funds from the federal government to adequately finance requests for the program. Disadvantaged students should not be denied access to this program because of inadequate funding and failure of school districts to request it.

WORK STUDY PROGRAM
REQUESTS AND ALLOCATIONS
MARCH 31, 1971

County	Status	Amount Requested	Amount Allocated	Adjusted Amount Allocated
Alachua	on-going	$31,296.00	$11,423.04	$14,278.80
Bay	on-going	1,500.00	547.50	
Bradford	on-going	19,200.00	9,629.50	
Brevard	on-going	50,000.00	18,250.00	
Calhoun	new	2,500.00	912.50	1,140.63
Charlotte	new	3,432.00	1,252.68	
Columbia	new	20,000.00	7,300.00	9,125.00
Desoto	on-going	4,000.00	1,460.00	1,825.00
Dixie	on-going	10,000.00	3,650.00	4,562.50
Duval	on-going	40,000.00	17,946.20	
Hendry	new	4,000.00	1,460.00	
Holmes	on-going	8,064.00	2,943.36	3,679.20
Lake	new	60,000.00	13,475.00	
Leon	on-going	8,512.00	3,106.88	
Liberty	on-going	14,460.00	5,277.00	6,596.25
Madison	on-going	8,000.00	2,920.00	3,650.00
Marion	on-going	5,000.00	1,825.00	
Munroe	on-going	17,928.00	7,000.00	
Osceola	on-going	17,369.00	6,339.69	7,924.61
Pasco	new	9,840.00	3,591.60	4,489.50
Pinellas	on-going	4,896.00	1,787.04	2,233.80
St. Johns	new	20,500.00	7,853.00	9,816.25
Santa Rosa	on-going	42,966.40	15,682.00	19,602.50
Union	new	7,500.00	2,737.50	
Wakulla	on-going	3,000.00	1,225.00	1,531.25
Washington	on-going	14,500.00	5,292.50	6,615.63

Community Colleges

Florida Jr. College at Jacksonville	$ 5,760.00	$ 2,232.00	$
South Florida Jr. College	2,500.00	1,126.00	1,407.58
North Florida Jr. College	1,000.00	1,000.00	
Indian River Jr. College	10,752.00	3,241.00	4,051.25
Gulf Coast Community College	5,320.00	1,800.00	2,250.00
Seminole Jr. College	11,520.00	4,204.80	

Total Amount Requested: $465,315.40
Total Amount of Funds Available: $168,338.97
Total Amount of Allocations: $168,337.99

BLACK COMPREHENSIVE HIGH SCHOOLS

These disappearing schools were selected for study because each had a preponderance of disadvantaged students--based on state criteria for identifying such students. Included also in the pupil population is a large number of disadvantaged students who may be classified as "high risk." The curriculum and the teaching techniques of the following schools were examined:

1. Stanton High School--Duval County
2. Jones High School--Orange County
3. Blake High School--Hillsborough County
4. Gibbs High School--Pinellas County

Vocational offerings in these schools varied from a minimum of twelve different courses in one school to a maximum of twenty-one different courses in another. Practically all of the vocational and technical education courses in these schools were classified as "low level," i.e., they did not require a great deal of scholastic achievement or a high aptitude on the part of the student to succeed in them. In most cases, the courses required minimal reading and computation skills.

The pupil population in these schools ranged from 90 to 100 per cent black. All but one school have an enrollment of over 1000 students and, for all practical purposes, are classified as black. The faculties in these schools were predominantly white (on the average of 80 per cent).

On-the-site study and interviews with personnel in these schools revealed that, other than routine problems that accompany the operation of a school, **a major problem is the lack of the special skills necessary to educate black children by many of the white staff members.** The following are some observations that were made by school personnel during a study of these schools:

1. Some white teachers were prone to expect less from black students, particularly those who were classified as disadvantaged.
2. Some white teachers had a conflicting middle-class value system that alienated them from black students.
3. Some white teachers spent most of their time monitoring their classes rather than teaching them.
4. Some white teachers wanted to transfer to predominantly white schools as soon as possible.
5. Some white teachers do not understand the learning style of disadvantaged students.
6. Some white teachers were ignorant of the cultural differences that exist among disadvantaged minority students--others were aware of the differences but were insensitive to them as factors in the learning process.
7. Some white teachers immediately dub black students as unintelligent, uncooperative, or stubborn.
8. Some white teachers are afraid of black students. They consider them to be prone to unrestrained behavior and physical violence.

The preceding observations by school personnel in these institutions is readily understood when one considers that most of the white teachers in these schools were assigned to them. According to school officials, most of them were transferred from other schools (mostly white, middle-class) as a result of a court order mandating the desegregation of the schools. Others are young, inexperienced teachers who were hired recently and assigned to these schools. Only a few of these teachers are in these schools because they volunteered to come to them. Consequently, the behavior and attitude of some of these teachers has been less than conducive for educating black and mostly disadvantaged students in this nearly extinct type of school.

Recommendation:

It is recommended that only educators with demonstrated attitudes and skills for the social, cultural and economic needs of disadvantaged black student be selected for employment in black elementary and seconary schools.

SUMMARY AND IMPLICATIONS

Although no one program can, of itself, lead to a solution to deprivation on a mass scale, vocational and technical education is most important, because without it there is no hope that the disadvantaged ever will acquire skills to hold a decent job so that they can break from their complex web of impoverishment. Florida can and must develop schools for the effective education of the deprived and disaffected children described in this report.

Briefly, this study and evaluation of vocational and technical education programs in the state's secondary schools disclosed that, for the most part, they do not meet the needs of the disadvantaged student. Vocational and technical education programs in Florida need to be modified to a moderate extent on the one hand, and drastically overhauled on the other. The following are some major problems that should be solved immediately:

1. Recruitment--A major recruitment drive should be undertaken to increase the enrollment of disadvantaged students in vocational education courses.
2. Counseling--Each school district should be required to provide relevant vocational education counseling and be required to meet level 3 standards in schools serving disadvantaged students.

3. Curriculum--Occupation education courses should be offered in the elementary and junior high schools. **Disadvantaged students often are forced to drop out of school before they reach the high school level.**
4. Teacher Education--Experiences via seminars, workshops, and college courses must be offered which will help teachers, both in preparation and inservice, to modify their behavior and attitudes toward disadvantaged students for the sake of healthy development and successful learning in these students.
5. Testing--Vocational and technical education institutions should eliminate the use of learning potential tests for any purpose other than as they may serve to guide students into programs where they may experience the most success. Such tests are sometimes used as screening devices and tend to limit the availability of certain vocational education courses to disadvantaged students.

There are other problems of equal importance that should have the state's attention. They have been pointed out in preceding sections of this report. Unquestionably, more money is needed for vocational and technical education institutions than for colleges and universities, and more money in depressed areas (slum and rural) than in suburban schools. Right now the situation is reversed. But money is not enough, **the schools must be restructured in order to become more meaningful to disadvantaged students.**

The findings, conclusions, and recommendations in this report are based on a comprehensive study of vocational and technical education programs in Florida. The report includes research in fifteen school districts which embrace a population of 4,519,961 residents--the state's total population is 6,789,443. (24) Nearly one million students are served by the elementary and secondary schools in these districts.

REFERENCE LIST

1. Arnold, Walter M. "Vocational Guidance and Vocational Education: The Common Goal." The Vocational Guidance Quarterly. XVI, September, 1967, pp. 2-6.

2. Combs, Arthur W. "Sensitivity Education: Problems and Promises." Educational Leadershp. XXVIII, December, 1970, pp. 235-237.

3. Data Processing Printout. VTAD Enrollments Involving Disadvantaged Students for the Year Ending June, 1970. Tallahassee, Florida: Division of Vocational, Technical and Adult Education, Florida State Department of Education, 1970.

4. Deutsh, Martin. "The Disadvantaged Child and the Learning Process." Education in Depressed Areas. New York: Columbia University Press, 1964, pp. 163-179.

5. Florida Employment Directions: Industries and Occupations 1968-1975. Tallahassee, Florida: State Department of Commerce, November, 1970.

6. Florida State Plan for the Administration of Vocational Education (Parts I, II, and III). Tallahassee, Florida: Division of Vocational, Technical and Adult Education, Florida State Department of Education, July, 1969.

7. Filter, Paul A. "A Survey of Black Studies: Positions and Opinions." Educational Leadership. XXVIII, January, 1971, pp. 369-372.

8. Frazier, Alexander. Educating the Children of the Poor. Washington, D.C.: Association for Supervision and Curriculum Development, NEA, Publications, 1968.

9. Frost, Joe L. and Hawkes, Glenn R. The Disadvantaged Child: Issues and Innovations. Boston: Houghton Mifflin Co., 1970.

10. Gay, Geneva. "Needed: Ethnic Studies in Schools." Educational Leadership. XXVIII, December, 1970, pp. 292-296.

11. Good, Thomas L. and Brophy, Jere E. "The Self-Fulfilling Prophecy." Todays Education. LX, April, 1971, pp. 52-53.

12. Gowan, John C. and Demos, George D. The Disadvantaged and Potential Dropout. Springfield, Illinois: Charles C. Thomas, Publisher, 1966.

13. Henrikson, Harold A. "Role of Teacher Attitude in Educating the Disadvantaged Child." Educational Leadership. XXVIII, January, 1971, pp. 425-430.

14. Miles, M. B. "Human Relations Training." Journal of Counseling Psychology. VII, 1960, pp. 301-306.

15. Ornstein, Allen C. Educating the Disadvantaged: 1968-1969. New York: Ams Press, Inc., 1970.

16. Ornstein, Allan C. "Program Revision for Culturally Disadvantaged Children." Journal of Negro Education. Spring, 1966, pp. 85-93.

17. Rosenthal, Robert and Jacobson, Lenore. Pygmalion in the Classroom. New York: Holt, Rinehart and Winston, 1968.

18. Sexton, Patricia C. The American School: A Sociological Analysis. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1967.

19. Sexton, Patricia C. Education and Income. New York: Viking Press, 1961.

20. Shaw, Frederick. "Educating Culturally Deprived Youth in Urban Centers." Phi Delta Kappan. November, 1963, pp. 91-97.

21. "The Nutrition Status of Negroes." Study by the National Branch and Program Analysis Branch, Division of Chronic Disease, Public Health, F.S.A. Journal of Negro Education. Summer, 1959, pp. 291-304.

22. Tribble, Ike. "Motivational Counseling: A Black Educational Imperative." Educational Leadership. XXVIII, December, 1970, pp. 297-301.

23. Tucci, Michael A. "Predicted vs.Actual Job Performance of Disadvantaged Negro Youth." The Vocational Guidance Quarterly. XVI, September, 1967, pp. 45-47.

24. United States Department of Commerce, Bureau of Census. 1970 Population Report. December, 1970.

25. "Using the General Aptitude Test Battery with Vocational or Technical Education Bound Ninth Grade Boys." The Vocational Guidance Quarterly. XVII, September, 1969, pp. 59-64.

26. Vocational-Technical Education in Human Resource Development in Florida: Statewide Evaluation. Tallahassee, Florida: State Advisory Council for Vocational and Technical Education, Florida State Department of Education, August, 1970.

27. Warden, Sandra A. The Leftouts: Disadvantaged Children in Heterogeneous Schools. New York: Holt, Rinehart and Winston, 1968.

28. Work Experience Program Standards. Tallahassee, Florida" Division of Vocational, Technical and Adult Education, Florida State Department of Education, August, 1970.

29. Zito, Robert J and Bardon, Jack I. "Negro Adolescent's Success and Failure Imagery Concerning Work and School." The Vocational Guidance Quarterly. XVI, March, 1968, 181-184.

AN ASSESSMENT OF PUBLIC VOCATIONAL-TECHNICAL EDUCATION BY EMPLOYERS

by

Philip R. Leese

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INTRODUCTION

In recent years shortages of trained manpower have raised questions about the necessity of re-examining certain phases of vocational-technical education. The idea for an in-depth survey of vocational-technical education by Florida industry emerged from meetings with specialists from the Division of Vocational, Technical and Adult Education, State Department of Education, Tallahassee, Florida.

It was planned to collect data and information which would assist educators and administrators in Florida to answer such questions as: **What is the employer's concept of vocational-technical education? And: Do public school programs respond to technological change? And: What kind of curriculum changes are appropriate?** Answers to these and other questions undoubtedly will provide helpful clues in developing new strategies for vocational-technical education planning. Thus, the underlying purpose of this survey was to stimulate improvement and expansion of education toward the world of work.

METHODOLOGY AND SCOPE

To obtain a valid and realistic assessment of public vocational and technical education in Florida, it is necessary to obtain the opinions of industry and business about the program and its graduates. In order to provide an unbiased procedure for gathering this data, all companies employing 100 or more people in Florida were selected for survey (see also Appendix A). This criterion furnishes an impartial cross-section of various types of industry and business. The 1969 edition of the Florida Directory of Industries, published by the Florida Chamber of Commerce, was the source. Questionnaires were mailed to provide an opportunity for industry to evaluate the graduates and recommend improvements for the state-wide vocational-technical education program.

A. The Questionnaire Phase

A total of 706 questionnaires (see Appendixes B and C) were mailed to Florida-based industries, businesses, and newspapers. Eighteen per cent of these companies responded (the Florida Department of Commerce receives approximately 10 per cent response to questionnaires mailed to industry). Those questionnaires returned after the February 5, 1971 cut-off date were not counted in the survey. The returns used represent coverage of 76,128 employees.

B. The Interview Phase (see Appendix D)

To provide a better understanding of the employer's view, two researchers visited each of the five major urban centers of the State: Miami-Ft. Lauderdale, Tampa-St. Petersburg, Jacksonville, Orlando, and Pensacola. Interviews were conducted with fifty-two representatives of industry and commerce in those areas. An average of four interviews per day were arranged on each trip to the five major urban areas. The interviews lasted an average of one hour each plus local travel time allowed. The answers and the ensuing discussions were in great depth, with company representatives being very cordial and speaking freely about the inquiries. The general trend of emphasis by employers was harmonious.

Supportive information was obtained through coordination with government agencies. Reference publications were obtained from the Florida Department of Commerce, the State Department of Education, and the Florida House of Representatives.

Summary

The main objective of the interviews was to examine specific relationships between education and employment. Before the samples were selected, the population was divided into seven groups representing the seven major industrial classifications: (1) transportation and utilities, (2) construction, (3) manufacturing, (4) service, (5) wholesale and retail trade, (6) processing, and (7) agriculture.

Several considerations shaped the sample on which this report is based. One major consideration was to complete the field work by April, 1971, thus being able to process and analyze data and to write the report by June 1, 1971. Another consideration was to keep travel expenses low. In order to do so the interviewers shortened most interviews from the originally planned three hours to one hour, thus enabling them to schedule four interviews per day. Adequate statistical control procedures were set up to facilitate geographical, industrial, and occupational coverage.

In the attitudinal analysis, managerial attitudes toward vocational-technical education were studied. The responses were tabulated and frequently cross-tabulated with variables such as size of the firm (annual sales), number of employees, organization of firm, distribution of plants by two-digit industrial code group, percentage of non-white employees, etc.

TABLE 1

QUESTIONNAIRE RETURNS BY INDUSTRY GROUPS

Industry Group	Number Responding
Transportation and Utilities	2
Construction	2
Manufacturing	61
Service	28
Wholesale & Retail	2
Processing	30
Agriculture	4
Totals	129

Note: All replies were completed by a representative of either management or supervision.

TABLE 2

INTERVIEWS BY INDUSTRY GROUPS

Industry Group	Number of Interviews	
	Interviewer A	Interviewer B
Transportation and Utilities	3	2
Construction	1	2
Manufacturing	8	9
Service	5	10
Wholesale & Retail	1	0
Processing	5	5
Agriculture	0	1
Totals	23	29

TABLE 3

TYPES OF INDUSTRY AND PERSONNEL INTERVIEWED

Type of Industry	Total Number of Firms Contacted	Interviews with Management		
		Upper-	Mid-	Lower*
Transportation and Utilities	5	×	×	×
Construction	3	×		×
Manufacturing	17	×		×
Service	15	×		×
Wholesale & Retail	1	×	×	
Processing	10	×		
Agriculture	1	×	×	
Totals	52			

*Includes supervisory personnel.

TABLE 4

PROFILE OF PERSONNEL INTERVIEWED

Personnel	Per cent of Interviews
Upper Management	28
Mid-management	50
Lower Management	15
Supervision	7
Totals	100

FINDINGS AND RECOMMENDATIONS[1]

The companies that participated in the survey represented a total of 76,128 employees. All interviewees (N = 52) expressed an emphasis toward upgrading the image of vocational-technical education and the graduates. Another unified opinion was that vocational-technical education faculty qualifications should be shifted from state control to the control of institutional administrators as is done in colleges and universities.

After the data were compiled, company interviews completed, and the information analyzed, the following findings and recommendations are presented with the view that true progress cannot be realized without bold changes.

Answers to questions One and Two of the questionnaire concern the company name, location, and product and/or service rendered.

Answer Three states the present number of employees and the peak employment in 1968. These employment figures were combined with those questionnaires returned (2%) by the U.S. Post Office because the addressee had discontinued business. The majority of those no longer operating a business were aerospace and military-related industries. The comparison shows a net 6.2 per cent decline of employment since 1968.

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[1] *These survey findings are compatible with those of the Florida House of Representatives' report dated March 2, 1970, from the Special Vocational Education Subcommittee, Kenneth H. MacKay, Jr., Chairman.*

The State unemployment figures can be compared unfavorably with the U.S. Department of Labor statistics which are based on a sample of 52,000 households throughout the country. Florida statistics do not appear realistic for unemployment within professional, semi-professional, and white collar technical ranks because these categories generally are not reflected in the Florida unemployment figures. Many of these technically-oriented people were laid off as the result of aerospace and military cutbacks, never applied for unemployment compensation, and therefore were not counted in the unemployment statistics. Many were semi-retired military personnel who did not seek other employment but rather moved to full retirement. Some took temporary jobs in the expanding tourism and service industries. Many are temporarily off the technical-job market until the economic situation improves. **The professional, semi-professional, and technical job market will have keen competition in the near future.**

An attempt was made to estimate the number of working, retired-military personnel in Florida; however, nothing concrete could be obtained. An unconfirmed figure of 30,000 retirees (many in the forty to fifty age group) using the Naval facilities at Orlando alone was obtained and there are five other major installations in the state. One state division director stated that he hires only retired officers for professional and semi-professional positions. Many retired officers receive $800 to

$1000 per month retirement pay plus as much again in salary. It is recommended that an in-depth study be made as to what influence this has on vocational-technical positions in government and industry considering the number of unemployed persons of equal qualifications.

In this connection it should be noted that the Department of Labor's 1970-71 edition of the Occupational Outlook Handbook predicts the following areas to be those of fastest growth nationally in the near future:

1. The fastest growing occupational area will be professional and related job fields.
2. Close behind will be that of service workers.
3. In all kinds of occupational areas there will be a growing need for workers in research and development, education and health services, and the processing of paperwork.

Question Four of the questionnaire read: Do you recruit from Florida community colleges or vocational-technical schools? Of those responding, 45.5 per cent do recruit from community or junior colleges; 51.5 per cent do recruit from vocational-technical schools.

It is recommended that an updated Directory of Occupational Curriculums be furnished to all industries listed in Florida. This would help make industry aware of what vocational-technical education is doing and promote future support. These should be delivered on an annual basis by a vocational-technical education representative and discussed. It could be an opportunity to match up graduates from occupationally saturated areas with employers from areas with a scarcity of skills. Arrangements could be made for employment interviews between prospective employers and graduating classes.

Several employers praised the tabulated lists they received from the local junior colleges indicating the number of graduating students and their specialty. It is recommended that a central office list these and send them to all Florida industries.

Answer Five(a) indicates how many companies employ vocational-technical education graduates. Of the companies that responded, 55 per cent do employ vocational-technical education graduates. One company has membership on a vocational-technical education advisory committee but does not employ vocational-technical education graduates. Several firms stated "We prefer . . . to employ those who have had one or two years employment [experience] rather than those who come straight from school." Another said, "Four years are required." The implication is covered by the following company statement: "Increase industry and school cooperative plans." That same suggestions also was stressed by employers in the interviews. They favor a quarter in industry, with course credit, and a quarter in school on an alternating basis such as used by Georgia Institute of Technology. **It is recommended that an alternating quarter/quarter cooperative program be expanded to make vocational-technical education graduates even more desirable to industry through articulation.**

Answer Five(b) reveals to what extent industry is satisfied with those vocational-technical education graduates which the company employs. Eight per cent found their potential greater than expected; 76 per cent found their potential as expected; and 16 per cent found their potential less than expected.

It comes as no surprise that many companies do not want to invest the extra time required to "break-in" an inexperienced worker, despite his potential. The data provided by the survey is supported by the Florida Department of Commerce observation that "many employers are reluctant to hire someone with only potential to offer rather than experience." One company stated: "Make employers more receptive to graduates." This can be accomplished through an expansion of the alternating quarter/quarter cooperative programs where the student would graduate with more than potential, i.e., with proven experience.

Answer Five(c) indicates whether vocational-technical education produces enough technicians, skilled tradesmen, and clerical personnel. Of the companies that answered, 57 per cent said vocational-technical education does produce enough white collar technicians; 70 per cent said vocational-technical education does produce enough clerical personnel; 60 per cent said vocational-technical education does not produce enough blue collar technicians; 74 per cent said vocational-technical education does not produce enough skilled tradesmen; and 55 per cent said vocational-technical education does not produce enough semi-skilled tradesmen.

The Florida Department of Commerce reports that "there is a scarcity of openings in the professional, technical, and managerial occupations. This is due to the ever-growing number of college graduates, technical school graduates, and semi-retirees (military) supplying an abundance of qualified people."[1] In view of the large availability of professional, semi-professional, and white collar technical skills, it is recommended that training in these general categories not be expanded for the next two years, until these unemployed skills are absorbed in an improved economic situation. It is recommended further that immediate emphasis be directed toward the expansion of programs to train blue-collar technicians, skilled, and semi-skilled tradesmen.

Answer Five(d) tells whether the company was restricted from expansion because of skill shortages. Of those that replied 80 per cent were not limited by skill shortages.

Answer Five(e) denotes which job skills need additional training emphasis. The following list specifically mentions the skills as well as the city where the shortage exists. It also confirms the shortage of blue-collar tradesman.

White Collar Technicians	Area
Manufacturing Technicians	Lakeland
Draftsmen	Ft. Lauderdale
Mechanical Draftsmen	Jacksonville
Restaurant Managers	Dania
Quality Control	Pompano Beach
Accounting	Ft. Pierce

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[1] *1969 Annual Manpower Report, op. cit.*

Blue Collar Technicians	Area
Tool and Die Makers	Daytona Beach, Madison, Hollywood
Electronic Technicians	Orlando, Stuart, Miami, Ft. Lauderdale
Gauge Inspectors	Orlando
Photo Printers	Kennedy Space Center
Cable Splicers	Kennedy Space Center
Aerospace Technicians	Cocoa Beach, Cape Kennedy,
Production Control	Pompano Beach
Grove Supervisors	Ft. Pierce
Skilled Tradesmen	
Refrigeration Mechanics	Frost Proof
Pressmen	Ft. Meyers, Jacksonville
Machinists	Hollywood, West Palm Beach, Melbourne, Daytona Beach, St. Petersburg, Lakeland, Perry, Orlando
Mechanics	Century, Tampa, Stuart, Bartow, Pierce, Plymouth, Umatilla, Ft. Pierce, Madison, Jacksonville, Lake Wales
Electricians	Tampa
Carpenters	Leesburg
Sheet Metal Mechanics	Lakeland, Melbourne
Metal Fabricators	Miami, Bradenton
Pipefitters	Panama City, Tampa
Welders	Panama City
Semi-Skilled Tradesmen	
Grove Equipment Operators	Ft. Pierce
Pest Control	Miami
Heavy Truck Drivers	Jacksonville
Precision Spray Painters	Melbourne
Nurserymen	Monticello
Sewing Operators	West Palm Beach
Sales	St. Petersburg
Clerical Skills	
Secretaries	Stuart, West Palm Beach, Green Cove Springs
Stenographers	Jacksonville
Dictaphone	Monticello
Keypunch	Monticello

The results of the survey indicate that the greatest difficulty in filling vacancies occurs in the skilled groups. Qualified candidates are not readily available. In these groups 90 per cent of the listings indicates that the occupations in 1970 were hard to fill. However, need and hard-to-fill should not be confused.

The cause of certain occupations being listed as hard-to-fill could be due to the grouping of several specific occupations under one general heading. For instance, the intense shortage of Licensed Practical Nurses has caused the entire Medical Services miscellaneous group to be listed as hard-to-fill although other occupations in this group may not be in short supply.

Openings in the unskilled occupational group were reported the easiest to fill. Only two industry groups indicated any difficulty in this category and just 10 per cent of these listings indicated labor vacancies hard to fill.

In Chemical Products manufacturing, Electrical Equipment manufacturing, and Transportation Equipment manufacturing industries, 10 per cent of the listings indicated difficulty in filling unskilled labor openings. Approximately 10 per cent of the listings in all other industry groups reported difficulty in filling these laborer vacancies.

Answer Six reports to what extent on-the-job training programs existed. Of the companies responding, 59 per cent did have some type of on-the-job training. Most companies have a short orientation training course for new employees; however, these are not counted. One employer stated that his company "conducts apprentice programs--approved by the Florida Industrial Commission and the Veterans Administration." A construction firm employer indicates that trade apprenticeships are in "union shops" only. However, it is believed that vocational-technical education can help the non-union industries through cooperative programs and without union prejudice. The recommendation is to expand quarter/quarter cooperative programs, with course credit, between industry and vocational-technical education so that the student will secure the specific experience necessary for his acceptance by industry. This type of program often could replace the traditional need for apprenticeships. Additionally, through articulation, it would make industry more aware of what vocational-technical education is doing. A list of company-trained skills show that the greatest need exists in the skilled and semi-skilled trade groups. They are as follows:

White collar technicians

> reporters, quality control technicians, time study technicians, managers, accountants, draftsmen

Blue collar technicians

> instrument repair technicians, gauge inspectors, electronic technicians, tool and die makers

Skilled tradesmen

> pressmen, printers, typographers, mechanics, electricians, machinists, sheet metal mechanics, industrial electricians, aircraft mechanics, carpenters, welders, fuel cell repairmen, pipefitters, air conditioning mechanics, millwrights, refrigeration mechanics

Semi-skilled tradesmen

> solderers, dispatchmen, electronic assemblers, sewing

operators, fabric cutters, production assemblers, bakers, nurserymen, cooks, equipment operators, precision spray painters, sales

Clerical skills

general, keypunch, dictaphone

Answer Seven ascertains whether or not the company actively supports local vocational-technical education through advisory committee membership, furnishing qualified instructors, or other supportive activities. Of the companies that answered, 56 per cent did not provide any form of active support for local vocational-technical education. If all of the previous recommendations were fulfilled, industrial interest in vocational-technical education would be aroused.

Responses to question Eight, which concerned the responsibility for instructor qualifications, were among the most consistent. Of those who replied, 75 per cent agreed that the vocational-technical education community college faculty qualification requirement should not be determined by the State Department of Education.

Post-secondary schools and colleges are divided into two categories: (1) those required to have state-certified faculty, and (2) those not so obligated. It has been traditional that Florida college and university faculties do not need certification and the system maintains a high caliber of instruction without certification requirements. There are cases both in vocational-technical education and the community colleges where qualified faculty were lost to the profession because of certification requirements. One employer stated that he spent eight years on the county school board and that many highly qualified men were barred from entering the teaching profession because they would not, or could not, meet the certification requirements.[1] There are cases of college and university level faculty being ineligible for full certification to teach equivalent courses in the community college. It must be noted, however, that almost anyone can obtain temporary certification until the full requirements are met.

One technically qualified company representative declined consideration to teach in a community college because of the requirements imposed by the State Department of Education. He is now an advisory committeeman for the local community college. Another faculty member, denied full technical certification, moved to another state to assume duties of department head of technology on the strength of his degree and fifteen years' experience.

Florida community colleges have matured with the support of business and industry. It is strongly recommended that a major priority be established to follow the pattern of other states and eliminate community college certification. It is further recommended that it be the full obligation of the local school administration to assure quality instructional personnel according to local industrial requirements and/or college standards.

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[1] *". . . certification requirements generally eliminate most teachers acquainted with the world of work." VTE Subcommittee Report dated March 2, 1970.*

This should be part of the administrator's professional ability and training.

In the company interviews, one very widespread opinion was that the State Department of Education should have confidence in the school administrator's ability to select qualified faculty as is done in colleges and universities. The quality of faculty at each institution can be reviewed periodically to assure that standards are upheld. Accreditation agencies such as the Southern Association of Colleges and Schools can accomplish this. It would be a tax-money saving decision to delete the certification function from the Divisions of Community Colleges and Vocational, Technical and Adult Education.

In the Florida Requirements for Teacher Certification it is stated: "Teacher certification is the means by which the State undertakes to make sure that each child's education is directed by professionally prepared and capable teachers." In the case of community colleges the students are not children. They are young adults of voting age and ready to be given some responsibility for upgrading the image of the institutions. The effectiveness of instruction can be best appraised by the students, for they are in a position to recognize true inadequacies in the classroom. Therefore, it is recommended that student appraisals of faculty be a basis for upgrading instructional personnel. This also should be a method for merit promotions and awarding tenure. That would be a bold and progressive development for improving the quality of faculty and the public and industry would benefit through better-prepared graduates.

Question Nine was a request for unrestricted suggestions on how to improve vocational-technical education in Florida. The following is a list of suggestions mentioned repeatedly by industry:

. . . Closer liaison between industry and vocational-technical schools.

. . . Continued surveys of industry.

. . . Use of more technically qualified instructors and fewer academicians.

. . . Improved recruitment of students for vocational trades.

. . . Improve facilities where needed.

Answer Ten indicated whether the company would grant an interview with a Florida State University researcher to discuss in greater detail the questions asked on the questionnaires. One of the most emphasized opinions acquired from these interviews was the need to improve the stature of vocational-technical education and overcome the stigma attached. Frequently it was stated: "they need to raise the image of this type education [vocational-technical] to attract more people and to make employers more receptive to graduates." To accomplish this objective it is necessary to establish a defined level of vocational-technical education so industry knows the value of the diploma/certificate and associate in applied science degree.

The vocational-technical education programs vary widely in significance. In some counties vocational-technical education is in the high school [some feel this encourages students to terminate their education upon completion of high school]; in other counties high school students attend an area center along with post-secondary students [the high school students get a diploma while the post-secondary students get a certificate for identical work]; still other counties have vocational-technical education as part of the community college. **This confusing situation tends to lessen the appreciative value of vocational-technical education to industry.** The VTE Subcommittee reported on March 2, 1970, "Vocational education in Florida has been characterized by a complex organizational structure and blurred lines of authority."

To build dignity, it is highly recommended that the term "diploma" be reserved for the high school level and that the word "certificate" be used at the post-secondary level. To provide a systematic value for achievement it is further recommended that all certificate programs be of one-year duration and fully transferrable toward the two-year associate degree programs. The associate degree should be fully transferrable to a technical college or university. Such a technical college, with practical standards, should be prepared to accept these graduates.

Once a student graduates from high school, he should have a clear channel to any level of education within reason. Normally this should be accomplished without loss of credit at any level. It should be recognized that practical skills are a solid foundation for building a more complete technical education, provided there is a reasonable sequence. One company stated that their best engineers are those originally employed as machinists who later finished engineering school. This would seem to open the door to those who need time to experiment, adjust, and learn their potential.

There should be an open door, with freedom for students to decide later whether to extend their education without loss of credit. These technically trained graduates would close the gap bewteen practical and theoretical education. The ratio should be 80 per cent practical graduates and 20 per cent theoretical graduates, according to a study conducted by the American Society of Engineering Education and confirmed by our on-site interviews. The student will benefit from the opportunity to progress as far as he aspires and when he chooses. It will develop pride in education and satisfaction in his work.

Another very important comment made by industry referred to shortage of minority groups in all technical, trade, and clerical skills. Several companies stated that vocational-technical education should "assist industry in meeting Equal Opportunity Occupational Commission requirements." **It is recommended that minority recruitment be expedited to meet industry's needs.** It is pointed out that many women are unable to apply for jobs where they are needed because of the lack of day-care attendants and facilities.[1] It is further recommended that vocational-technical education institutions or community colleges train enough day-care attendants to relieve the above shortage. With more attendants and facilities, more opportunity for women to seek training and employment in clerical occupations would be provided.

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[1] *1969 Annual Manpower Report*, op. cit.

Occupational guidance was cited by many interviewees (N = 52) as requiring "drastic improvement."[1] Almost all officials expressed their views about this area in some detail, and many other comments implied criticism of vocational guidance practice.

A complete vocational guidance program, as outlined by twenty interviewees, would include: (1) testing, (2) complete job information, and (3) complete orientation on the economic value of various educational achievements and degrees.

An adult guidance counselor expressed his views as follows:[2]

> Currently the only local information regarding the labor market supply and demand comes from the Florida State Employment Service and the Bureau of Employment Service (Florida Department of Commerce). The Florida State information is based on "employment service records and only represents occupations of most interest to applicants and employers using the F.S.E.S. Only about 25 per cent of the employers [redacted] use the service. Therefore, this information can not be generalized to the entire population because of the sampling bias involved.
>
> The Bureau of Employment Service, a Division of the Florida Department of Commerce, prints a chart indicating the estimated need for workers for a six month period for twenty cities in Florida. This information comes from the employment service and is inaccurate due to the sampling bias described above.

---

[1] *Compare with recommendations in the report "Continued Evaluation of Florida's Management Information System (MIS)."*

[2] *Interview with J. Burke, Adult Guidance Counselor, Lindsey Hopkins Education Center, Miami, Florida at Miami, Florida, March, 1971.*

More accurate information can be obtained from newspaper advertisements for employees. The Adult Placement Department has periodically done surveys of newspaper job advertisements. **It is suggested that this kind of survey be done on the state level in place of the chart printed by the Bureau of Employment Services.** This can be done by obtaining the newspapers with the largest daily circulation from each of the twenty cities or geographical areas, randomly choosing sampling days or surveying all the papers for the same day, and printing the results in terms of number of jobs for an occupation over the number of people in the labor force in that city or area. This sampling could be done once a week for each city or area and the totals printed monthly.

This survey, as described above, would only require the services of one or two clerks. It would contain accurate information which could be used over a period of time to help establish trends.

It is also recommended that firms which are the biggest employers in an area be requested to send information regarding job opportunities not advertised in the paper to this central labor information office and that this information be included in the survey.

In order to make some assessment of the past public school curriculum and/or programs for preparing candidates for employment the following question was asked and answers noted:

> **"What is your assessment of the general educational caliber of your employees during the past five years? Improved, about the same, or not as well prepared?**

To this question, 75 per cent of personnel managers interviewed answered that the caliber had improved; 15 per cent felt that the caliber had remained about the same, and 10 per cent felt the caliber had deteriorated.

Whereas this information merely gives us evidence that employers are not completely happy with the product of our schools--which should not be surprising--**there appears to be an underlying current of distaste for the attitude of students** about work and the emphasis by the schools on college preparatory curriculum. One personnel manager from a larger company said, "The students are not at all ready for industry; at best they have only been exposed, not trained." Another, who felt the caliber of recent employees had improved, said, "The student of today is more intelligent but has a negative attitude towards work that seems to be accentuated in the schools." Others agreed saying, "The present employees have greater overall knowledge, but have a very poor attitude about work and their obligations to the company."

There is the very real possibility that the cause for such an attitude might be as much societal as in what the schools are or are not doing. In trying to find information that factually would either credit or discredit management's view of curriculum the following was revealed:

1. A definite negative social stigma about vocational training is held by our society; it would seem as though training for a craft skill is somewhat like training for second class citizenship. The social pressures to go to college and succeed are enormous from outside the high school as well as from within. The schools find themselves mirroring a preoccupation of our affluent society; the lack of vocational training as a priority is the outcome.
2. A real alternative to college that offers either the amount or comprehensiveness along with the social prestige of the college preparatory curriculum does not exist.

SUMMARY OF RECOMMENDATIONS

It is recommended that training programs for blue-collar technicians, skilled and semi-skilled trades be expanded; that semi-professional, white-collar technicians and clerical training be continued at the present level until the economic situation improves.

It is recommended that a greater number of minority groups be recruited in clerical, skilled and semi-skilled trade programs to aid industry to meet the Equal Opportunity Occupational Commission requirements.

It is recommended that an updated Directory of Occupational Curriculums be furnished to all industries listed in Florida Directories of Industries.

It is recommended that a continuing assessment be made of the extent and efficiency of pertinent communications among the three principal components of the education-labor network, i.e., industry, the employment service, and the various education units.

It is recommended that a longitudinal study be conducted in order to assess, through the application of systems analysis techniques, the extent to which Florida's vocational-technical schools are fulfilling their obligations in meeting both local and state requirements for trained manpower.

It is recommended that alternative quarter/quarter cooperative programs be expanded to make vocational-technical education graduates even more desirable to industry; that liaison be improved between industry and vocational-technical programs.

It is recommended that an in-depth study be made as to what influence the hiring of semi-retired military personnel has on vocational-technical positions in government and industry, considering the number of unemployed persons of equal qualifications.

It is recommended that the term "diploma" be reserved for the high school level and the word "certificate" be used at the post-secondary level. It is further recommended that all certificate programs be fully transferrable toward the two-year associate degree program.

DEFINITIONS BASIC TO THIS STUDY

Entry Level Applicants.--Job candidates who have completed academic and/or vocational training requirements for a position but who have no work experience in the specific job applied for.

Frequency Distribution.--The number of times an event or statistic falls between set limits (e.g., the number of employees working a 40-44 hour week, the number working a 44-48 hour week, etc.).

Hard to Fill.--Occupations for which employers had difficulty finding qualified personnel.

Industry Classifications.--The identifying group into which employers are categorized according to their major economic activity.

Need or Manpower Need.--The employer's estimate of the number of workers to be hired in a specific occupation during a two to five year period.

Occupational Group.--A collection of occupational classifications grouped because they are similar or closely related in the nature of duties performed.

Skill Group.--A grouping of occupational groups similar or closely related in function.

APPENDIXES

A. LETTER ACCOMPANYING QUESTIONNAIRE 293

B. QUESTIONNAIRE 294

C. INDUSTRIAL DEPTH SURVEY INTERVIEW SCHEDULE, 1971 . . . 295

THE FLORIDA STATE UNIVERSITY
TALLAHASSEE 32306

DEPARTMENT OF EDUCATIONAL
ADMINISTRATION

COLLEGE OF EDUCATION

Dear Sir:

Enclosed you will find a questionaire. Its purpose is to provide a valid appraisal of vocational/technical education in the state of Florida. The findings will be analyzed and reported to the Florida Department of Education.

We ask that you please devote a few minutes of your busy day to answer the questions. Kindly mail it to us in the self-addressed envelope.

Your cooperation would be greatly appreciated. In return we will strive to improve vocational/technical education to meet industry's needs.

Sincerely yours,

Philip R Leese

Philip R. Leese
Research Associate

PRL:mtk

Enc.

THE FLORIDA STATE UNIVERSITY

STUDY GROUP FOR FLORIDA STATE-WIDE EVALUATION
OF VOCATIONAL-TECHNICAL EDUCATION

TALLAHASSEE 32306

This is a confidential questionnaire that is to be used only by Florida State University researchers in a report to the Florida State Department of Education.

1. Name of Company ______________________ City ______________________
2. Type of: Industry ______________________ Service ______________________
3. Employment at present — Employment at peak of 1968 — Approx Total ____________
   a. Total (approx) ____________
   b. Professionals ____________
   c. Semi-professionals ____________
   d. Production ____________
   e. Other ______________________

4. Do you recruit from Florida:

	Yes	No
A) community or junior colleges	☐	☐
B) vocational-technical schools	☐	☐
C) other ____________	☐	☐

5. In general, what is your evaluation of Florida vocational and/or technical education:

	Yes	No
a. Do you presently employ graduates of Florida voc/tech education	☐	☐
b. Has their potential been: greater than expected	☐	☐
as expected	☐	☐
less than expected	☐	☐
unsatisfactory	☐	☐

c. Does Florida voc/tech education produce enough of the following:

Technicians	Yes	No	Labor	Yes	No		Yes	No
white collar	☐	☐	skilled	☐	☐			
blue collar	☐	☐	semi-skilled	☐	☐	clerical	☐	☐

d. Has any skill shortages restricted your freedom to expand? ☐ ☐

e. What jobs need additional emphasis: ______________________

6. Does your Company have on-the-job training programs for the above? ☐ ☐

If so, what jobs? ______________________

____

7. Does your Company actively support local voc/tech education by:

	Yes	No
a. Advisory committee membership	☐	☐
b. Furnish qualified instructors	☐	☐
c. Other ____________	☐	☐

8. Should voc/tech instructor qualifications be determined by:

a. The local school according to local industrial requirements	☐	☐
b. The State Department of Education certification in Tallahassee	☐	☐

9. What can be done to improve voc/tech education in the Florida schools:

____

____

10. Would your Company grant an interview, to a Florida State University representative, to expand the above questions to obtain more detail? ☐ ☐

If so, who should be contacted? Name: ______________________ Tel. ____________

We sincerely thank you

December, 1970

APPENDIX C

STUDY GROUP FOR

FLORIDA STATE-WIDE EVALUATION OF
VOCATIONAL-TECHNICAL EDUCATION

in cooperation with the Division of
Vocational, Technical and Adult Education

Industrial Depth Survey Interview Schedule, 1971

1. Identification of subject

1-1. Name of company____________________

1-2. Address of Plant____________________

____

1-3. Name and title of interviewee(s) ________________

____

1-4. Type of industry

___Manufacturing ___Services ___Wholesale & Retail Trades

___Construction ___Transportation, Utilities

2. Technicians

2-1. Principal technical jobs in plant (excluding officers, scientists, & engineers - what are the key jobs in your plant?)

			Knowledge	Required	
Classification	College	JC	Tech. Ed.	HS	OJT

Total No. Employed	Research, Production, Maintenance	Hourly Rate

2-2. Are any of these technicians female?
____yes ____no If yes, how many____, list the jobs

____
____
____
____

2-3. Sources from which technicians obtained their job qualifications?

____College ____JC ____Technical Education

____HS Voc. Trng. ____Armed Forces Schooling ____OJT
(On Job Trng.)

2-4. Which of the above sources has provided the greatest number of new hirees in the past year?

____College ____JC ____Technical Education

____HS Voc. Trng. ____Armed Forces Schooling ____OJT

2-4-1 From which of the above courses would you prefer to hire new technicians?

____College ____JC ____Technical Education

____HS Voc. Trng. ____Armed Forces Schooling ____OJT

3. Skilled Workers (Those workers whose skills are certified by unions and/or licensed by state or municipal agencies)

3-1. Skilled manual worker jobs in plant

Classification	Total No.	R.	P.	M.	Wage Rate

3-2. How many skilled workers have completed formal apprenticeships? ____________
How many skilled workers have not completed formal apprenticeships? ____________

3-2-1 Did the "have nots" qualify for their skilled jobs by?

___a. OJT ___b. informal training program

___c. formal schooling ___d. Other (please describe)___
____

4. Semi-skilled and unskilled workers

4-1. Total number employed: male_____ female_____.

4-2. Average hourly rate: ________ range _____high________

Semi-skilled workers and un-skilled:

____on the job training

4-3. May we have copies of application forms, record forms, and any test used in personnel work here?

5. Training

5-1. Is encouragement given to workers to pursue their education or training outside the plant? ___Yes ___No.

5-1-1 What restrictions do you place on financing such study?

___Course must relate directly to their work
___Course must be part of a sequence leading to a degree
___Course will ultimately lead to the upgrading of the employee
___Company will pay 50% of the cost of the course if employee received "C" or better
___Company will pay 100% of the cost of the course if employee receives "C" or better
___No company policy on what courses will be paid for
___Other (specify)________________________________

5-2. What other special incentives do you offer to individuals for development of skills?

___Recognition in the company paper or newsletter
___Letter from company president (chief officer) of local plant
___Time off to register and/or attend special class or workshop
___Gifts of merchandise
___Assignment to workshift that does not interfere with school
___Monetary
___Other (specify) ________________________________

5-3. Do you have an apprenticeship and/or formal training program? _____Yes _____No

5-31 Are there any performance criteria skills and/or tests in these programs that will eliminate the employee?

_____Yes _____No If yes, please specify _____________

____

5-4. How serious is the rate of loss to other establishments of technicians and skilled workers trained by you?

_____Very serious
_____Serious
_____Not serious
_____No appreciable loss

5-5. From what training programs conducted in other plants or firms, if any, does your plant receive substantial benefits by way of transfers?

____a. Technicians
  ___1. Electronic
  ___2. Chemical
  ___3. Other
  ____
  ____

___b. Skilled workers
  ___Machinists
  ___Tool & die Workers
  ___Other
  ____
  ____

5-6. Formal or informal arrangements your plant has with the local school system.

____a. School officials will set up special classes if you request them.
____b. Special classes are taught in your plant by local school teachers
____c. Students work half-day at your plant and go to school half-day
____d. Co-op programs
____e. Others

6. Views on role of public education in skill development

6-1. Describe the attention you give to the educational records of candidates for employment

___Great importance is attached to grades
___Some importance is attached to grades
___Just interested in knowing if he graduates

___Great importance is attached to specific course of study
___Some importance is attached to specific course of study
___Little importance is attached to specific course of study

___Great importance is attached to attendance record
___Some importance is attached to attendance record
___Little importance is attached to attendance record

6-2 Do you prefer graduates of certain high schools or secondary schools in your area to those of others? If so, why?

6-3. Do you prefer graduates of one of the following high school curriculums?

___Vocational-Technical ___b. Secretarial (business)

___c. General

___General shop
___Vo-Ag
___Automotive
___Electronics

___Office machines
___Accounting

Comment:________________________________

____

6-3-1 If you prefer graduates of one of the above curriculums is it because:

___a. They are immediately productive
___b. They bring basic abilities to your firm and thus shorten their training period
___c. Other

Comment:________________________________

6-4. Are there particular courses which a young person can study in high school which provide background especially useful in your industry?
Please specify by occupation or job classification.______

____

6-5. Can you suggest topics which might be added to the high school curriculums as useful background for particular technical or skilled occupations?

6-6. Do you prefer graduates who have received:
___vocational training
___academic preparation
___combination of vocational and academic preparation
___armed forces training

6-7. Compare the relative importance of educational and personality (adaptability, loyalty, etc) factors in your selection, placement, and promotion policies.

CONTINUED EVALUATION IN THE DEVELOPMENT OF A MANAGEMENT INFORMATION SYSTEM (MIS)

PART I

DATA NEEDS FOR MANPOWER PLANNING[1]

by

Richard H. P. Kraft

---

[1] *Several sections of this report have been adapted from "Decisions, Data Needs and Manpower Planning Operations," by Richard H. P. Kraft and Susan Padro,* *Educational Technology**, XI, No. 3 (March, 1971).*

300/301

DATA NEEDS FOR MANPOWER PLANNING

From the time of the establishment of the first formal education program, employers and educators have likely been posing the now universal and apparently perpetual question, "Why cannot the schools supply more completely and readily usable products?" The question is also interpreted to mean literally, "Why are the schools not producing persons of the quality and in the quantities required by the labor market?"

There are myriad explanations for the chasm that surely exists between the needs and expectations of the consumer of the educational product (the employer and/or the student himself) and the capabilities or actual value of the product which the supplier is offering to the market.

On the quantity issue, one immediately thinks of such matters as the "skills gap." Today neither the government nor an industrial user expects to find the desirable distribution (on a percentage basis or in absolute terms) of new additions to the labor force among those intending to place themselves on the market upon exit from the secondary school.

The stock explanations for this failure to provide **quantitatively** is found in the enslavement of many school systems to traditional curricula, the scarcity of instructional staff for the newer technical programs (electronics, data processing, etc.), a dearth of realistic vocational-technical counseling, inadequate financing, inflated parental expectations and ambitions and a near absence of scientific educational planning and attention to practical human resource development.

Each of the preceding is a definite impediment to the desired "togetherness" of the supply and demand curves for contemporary manpower analyses.

One way to narrow the gap between points located on the supply and demand schedules is to develop a computerized information system which will link the manpower needs of a community, region, or state with the output of educational institutions. This would allow a matching of jobs to the qualifications of employable graduates. Such a system undoubtedly can also serve as an impetus to adapt the school curricula to the long-range manpower needs of large areas (see Figure 1).

Computers

At present, there are three areas of education where computers are becoming not only more and more useful, but also more and more necessary.

First, in the area of routine clerical and management operations, data processing has become vital not only due to the increase in the number of students, but also due to the amount of information now required per student.

Second, we see the computer as a tool for handling mass data.

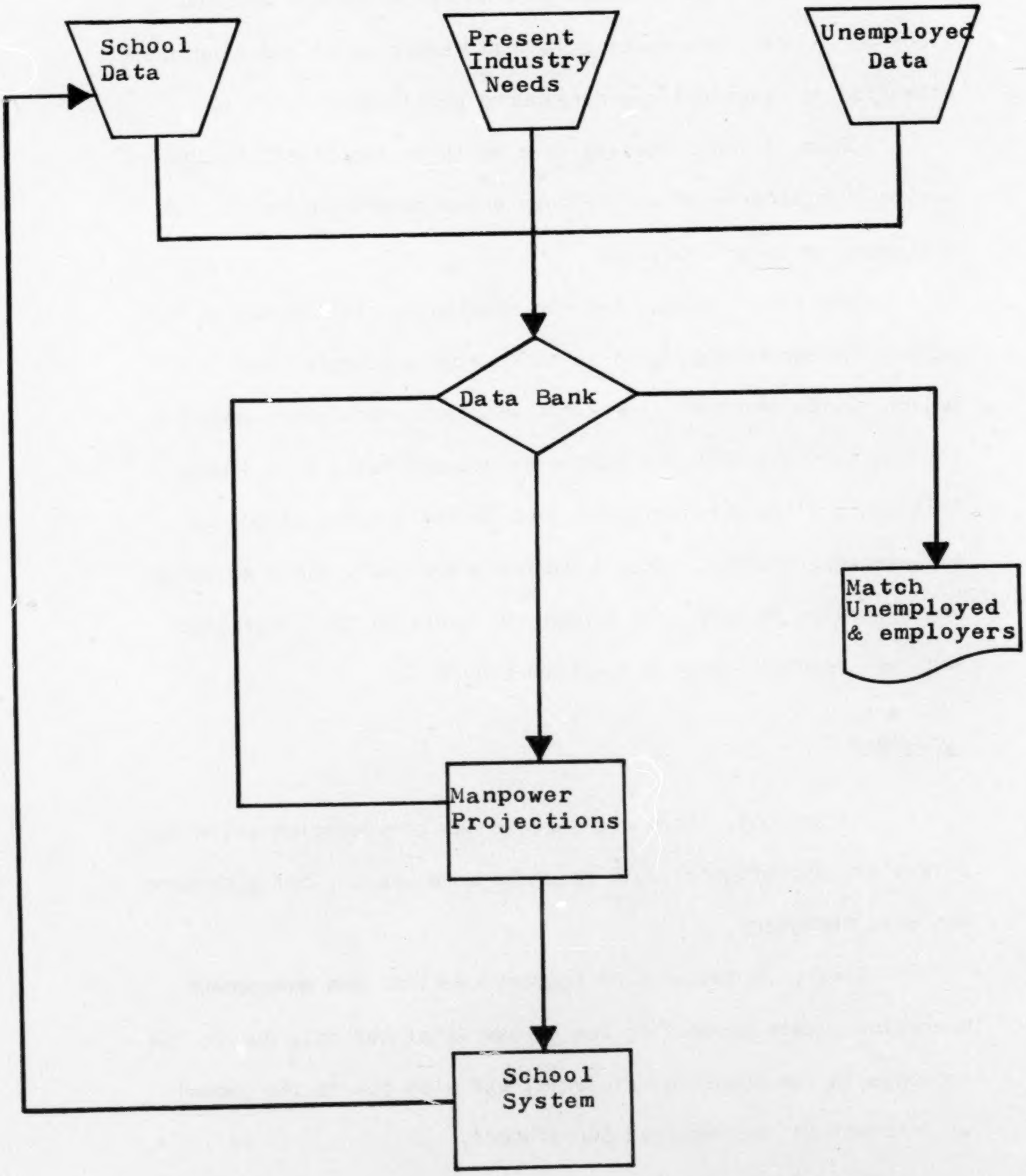
School Data
Present Industry Needs
Unemployed Data
Data Bank
Match Unemployed & employers
Manpower Projections
School System

Figure I.--Data banks as "Heart" of Vocational-Technical Education Information System.

There have been many applications of data processing techniques in the field of educational administration. Mark reporting and its by-products, test scoring and reporting at the school and district levels, and attendance accounting can be shown to be greatly simplified by the use of electronic data processing equipment. Most producers of data processing equipment also have "packaged" programs to carry out many of these functions for educational systems. Various service agencies can be found which also perform similar jobs for school systems.

Aside from such individual, isolated activities, various projects have emerged which attempt to provide total data processing services for school districts. The New England Educational Data Systems (NEEDS) is one such project; it offers services such as scheduling, preparation of report cards and attendance records, and test scoring. Another such program is the Iowa Educational Information Center, with such services as class registration, class scheduling, automated class loading, locker assignments, auditorium seat assignments, grade cards, attendance reports, honor and eligibility lists, pupil progress reports, guidance reports, staff certification, teacher assignment, activity fund records, and inventory control of textbooks, library material and audio-visual aids, among others.

Directly related to all these services are projects which attempt to produce "data banks" of information on students.

Implications

How can the vocational-technical educational system benefit from manpower projections and computerized data banks? How can the educational system best serve its students in terms of preparing them for future useful economic roles?

The Data Bank Model

At this point, let us formulate a model of a computerized information system linking the manpower needs of a state with the output of the educational institutions, in order to match job-openings with qualifications of those leaving school.

Figure 2 represents the model. National manpower long-range projections as well as short-range and present state needs in terms of specific employer needs are fed into a central state data bank. The data bank then produces state manpower projections which, in turn, are communicated to the local school districts within a state. This information is then relayed to the individual schools in the system, where curriculum decisions and guidance counseling "policies" are formulated, being modified according to manpower needs. In this way, a rational attempt can be made to fulfill current and projected state needs by output from the system. Students graduating from or leaving school can then feed their skills and educational qualifications into the state data bank through the state employment service (this may be done several months prior to leaving school,

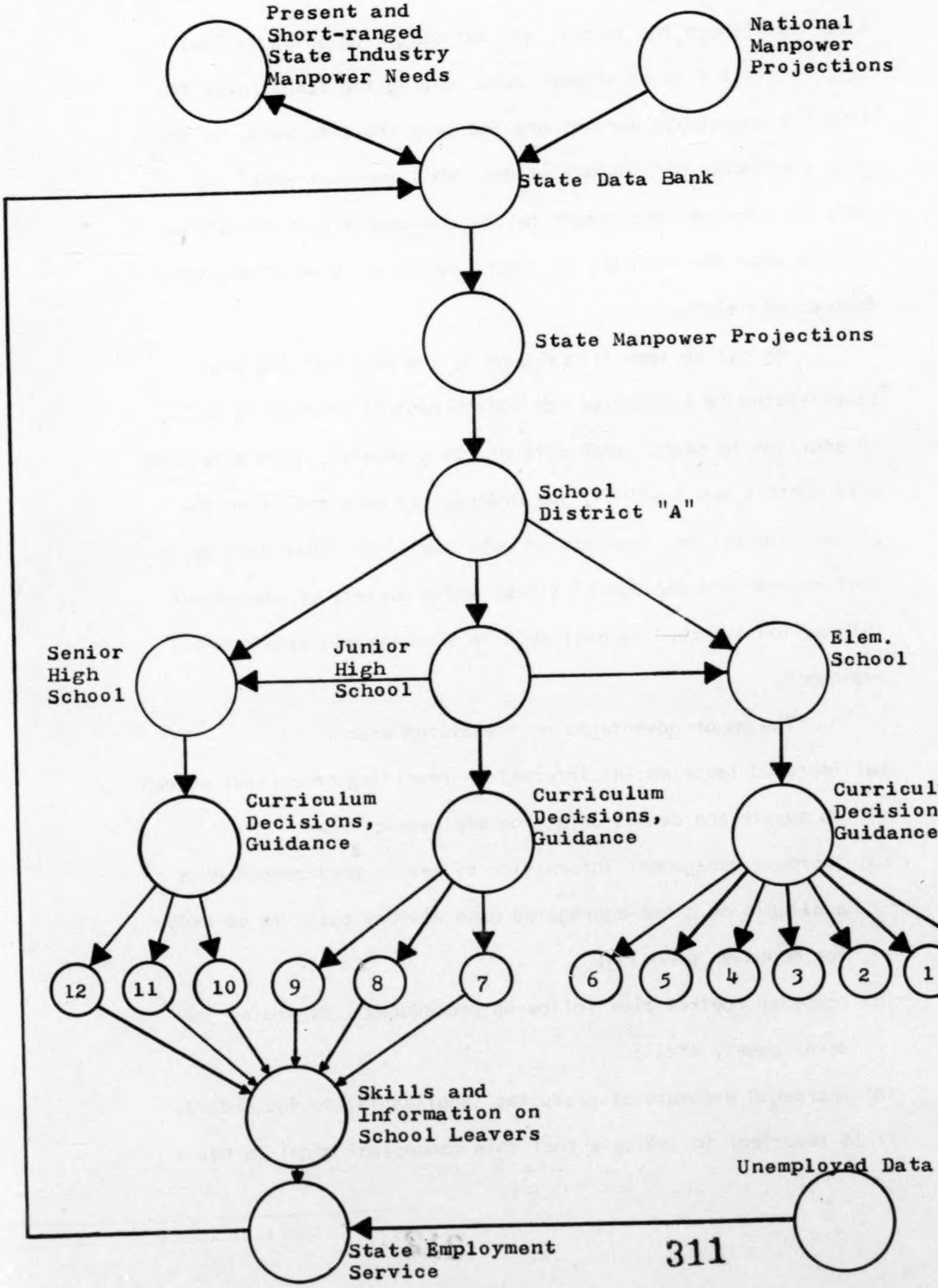
Present and Short-ranged State Industry Manpower Needs
National Manpower Projections
State Data Bank
State Manpower Projections
School District "A"
Senior High School
Junior High School
Elem. School
Curriculum Decisions, Guidance
Curriculum Decisions, Guidance
Curriculum Decisions, Guidance
12
11
10
9
8
7
6
5
4
3
2
1
K
Skills and Information on School Leavers
Unemployed Data
State Employment Service

Figure 2.--Model of Vocational-Technical Data Bank and Information System.

directly through the school, and not simply on an individual basis). This file on student data leaving the school plus the file for unemployed persons are fed into the data bank, to produce a matching of prospective employers and employees. In this way, optimal employment may be achieved within the state, and the need for industry to import personnel from other states becomes minimized.

As can be seen from Figure 3, the heart of the proposed system is a computer controlled central processing unit. In addition to educational data of the graduates, this data base will contain applications, job orders, tax data and other employer information, transaction data posted to individual applicant records and employers' files, and a variety of management information all readily available to school administrators and employers.

The major advantages of the system are:

(a) improved labor market information resulting from ready access to supply and demand data from employers;

(b) improved management information by making performance data available on a non-aggregated case history basis to be used for manpower planning;

(c) computer control over follow-up procedures (referrals, job development, etc.);

(d) increased exposure of graduates (applicants) to job orders.

It is important to indicate that this conceptual model is **not** a

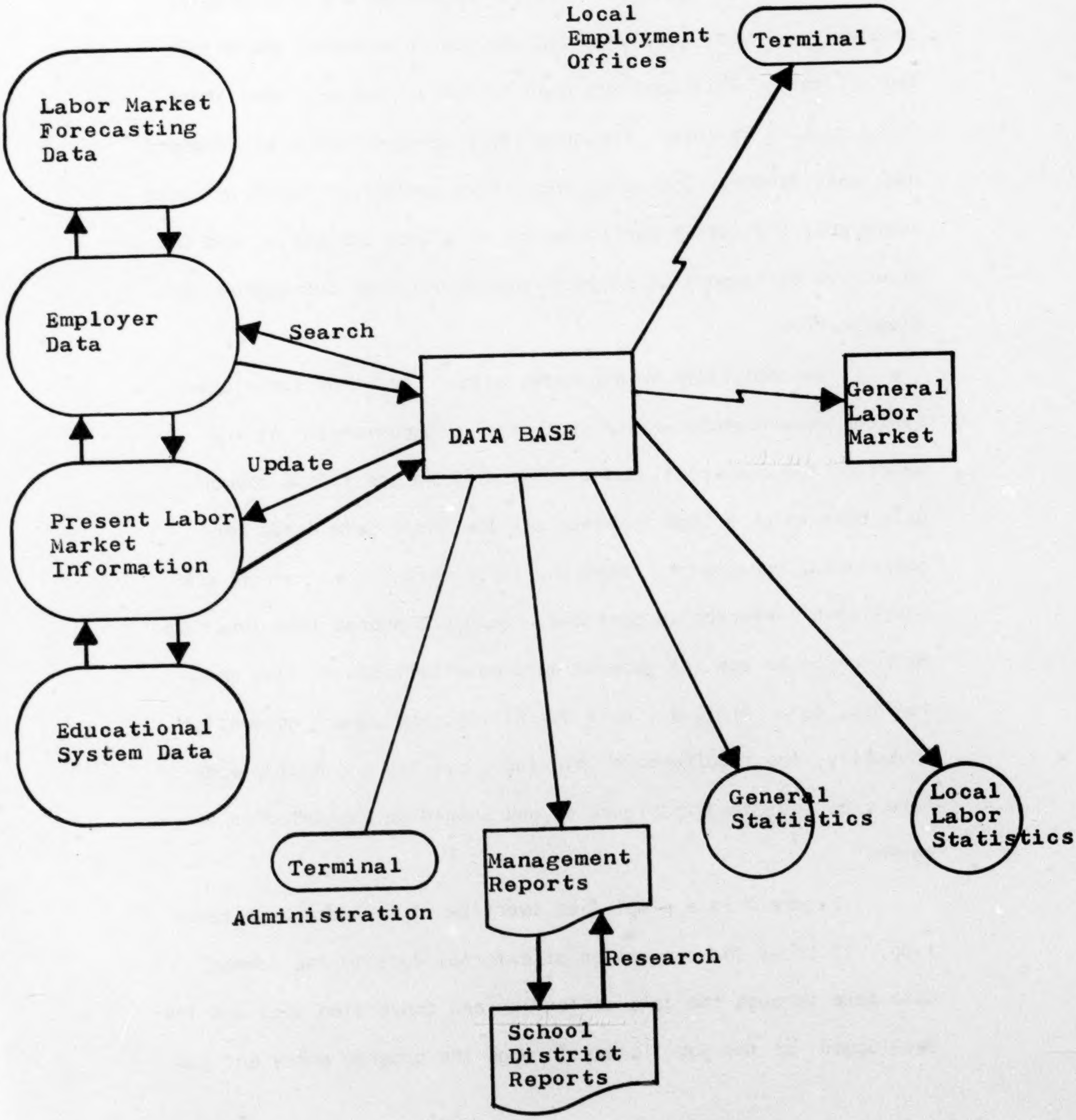
Local
Employment
Offices
Terminal
Labor Market
Forecasting
Data
Employer
Data
Search
DATA BASE
General
Labor
Market
Update
Present Labor
Market
Information
Educational
System Data
General
Statistics
Local
Labor
Statistics
Terminal
Administration
Management
Reports
Research
School
District
Reports

Figure 3.--The conceptual model of a Vocational-Technical Education Data Bank.

system design. It represents basically a statement of subsystem objectives and a concept of operations.

Meeting the long-range system requirements is technologically feasible. Systems of similar magnitude and even greater complexity already have been implemented in industry and within the military. This does not mean to imply, however, that there is no risk of failure. The successful implementation will depend upon many factors, including the active participation of informed employers, the active participation of school officials, and the effective assignment of project responsibilities for system implementation.

The model can be expressed also in terms of functional systems requirements within each model program area. At the heart of the conceptual model (Figure 4) we see thus a common data base which brings together all the basic data needs for operations, management, research, labor market information, and educational information purposes. Data are shared from function to function as are the general data base services of file maintenance, data retrieval, data definition, and report generation. Basically, the requirements interface, overlap and modify each other, as indicated in Figure 4, and should be evaluated as a whole.

Figure 5 is a simplified overview of the data bank function. It shows the conversion of external data to the common data base through the data collection and conversion jobs and the development of the job library through the program entry and job

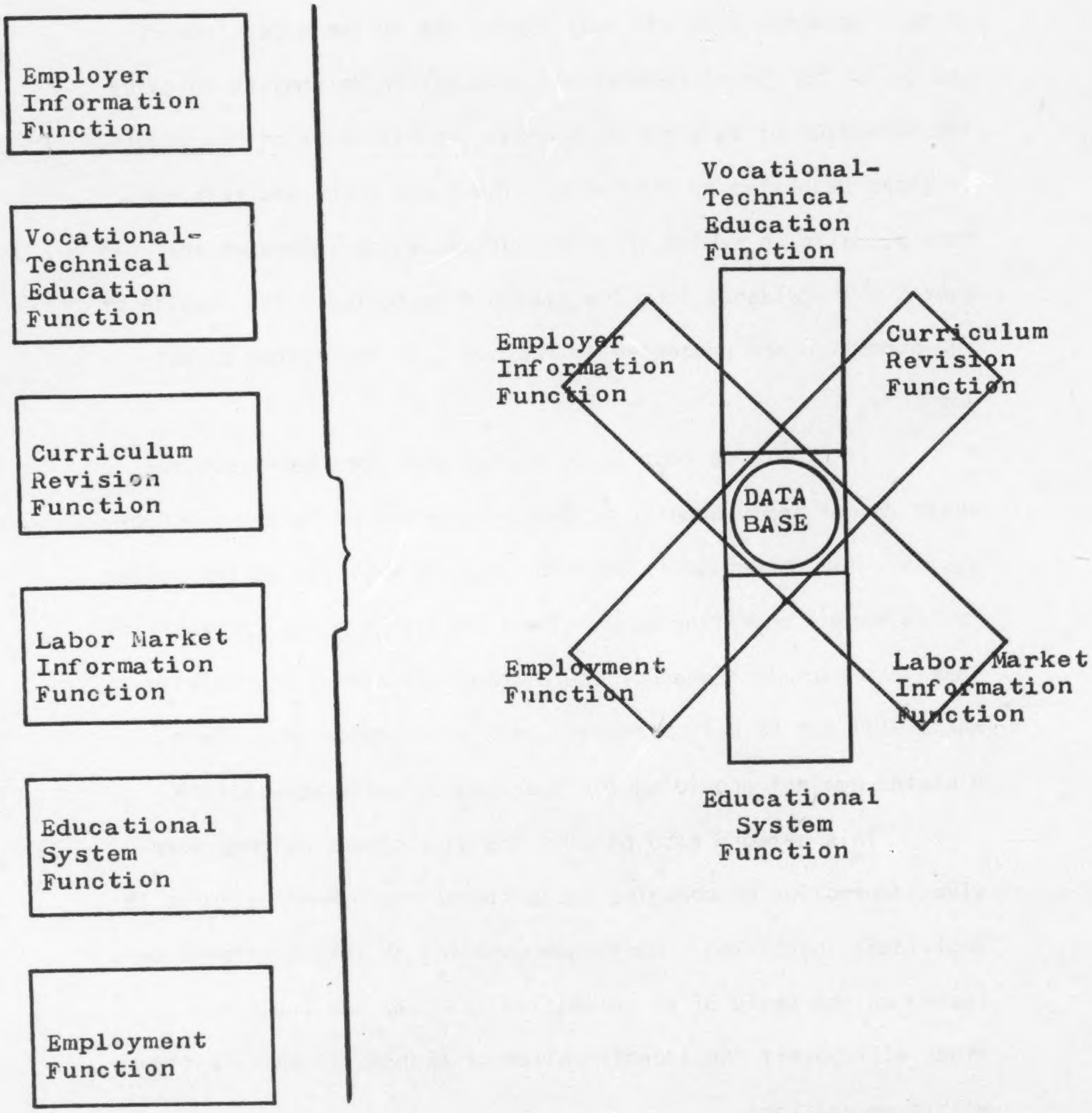
Employer Information Function
Vocational-Technical Education Function
Curriculum Revision Function
Labor Market Information Function
Educational System Function
Employment Function
Vocational-Technical Education Function
Employer Information Function
Curriculum Revision Function
DATA BASE
Employment Function
Labor Market Information Function
Educational System Function

Figure 4.--Functional requirements integrated into a conceptual model.

description positions. With these data and program resources available, the users--school officials and prospective employers--may request that a program from the library be applied to a set of data selected from the data base. The system supervisor responds to the users' request and sets system parameters to guide the selection of data and to oversee the execution of the sequence of tasks requested by the users. The tasks store and retrieve data by calls on system service routines which interpret the requests with guidance from the system directories. The results of the operation are presented to the users by the system output jobs.

It should be kept in mind that such data bank requirements do not apply equally to every situation or to every school system. The requirements describe what is expected of the system in its normal operating mode. There is a statistical probability that in a certain number of operational situations the requirements will not be met; after all, fiscal prudence oftentimes dictates against providing for every conceivable possibility.

This network also permits the development of comprehensive information on changing occupational employment patterns in individual industries. Continued sampling of jobs and tasks selected on the basis of an automation taxonomy and subjected to study will permit the identification of changes in skill patterns within occupations.

More important, however, is the fact that the conceptual model described will give school officials and large firms the

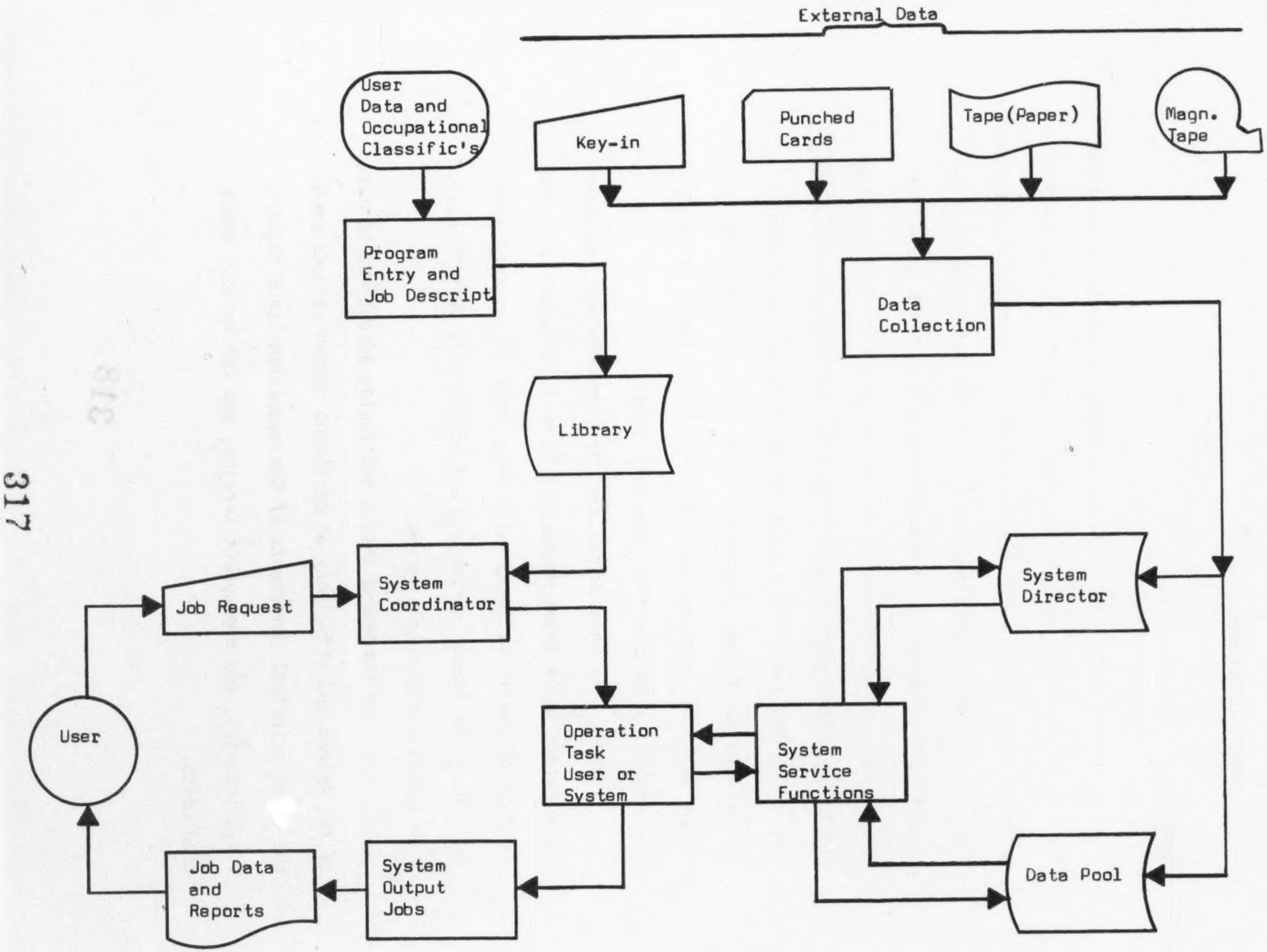
External Data
User Data and Occupational Classific's
Key-in
Punched Cards
Tape (Paper)
Magn. Tape
Program Entry and Job Descript
Data Collection
Library
System Director
Job Request
System Coordinator
User
Operation Task User or System
System Service Functions
Data Pool
Job Data and Reports
System Output Jobs

Figure 5.--Data Bank Management.

capability for significantly improved administration by establishing a common data base.

Summary

The rationale for such an information system as proposed here is to eliminate much of the "skills gap" which has been to a large extent perpetuated by the practice of industries importing skilled labor from other states, as the need dictated. By providing the necessary manpower "from within," the demands of the business community can be satisfied, while at the same time the maximum employment possibilities for graduates of the educational institutions within a region or state can be assured (as well as for school drop-outs)--due to direct training for fields with high manpower demands, as well as rapid matching of qualifications for specific jobs available.

After all: only 20 per cent of Florida's manufacturing firms advertise in local newspapers to make adjustments to the shortage of qualified personnel. And: only 17 per cent contact the local school system and ask school officials to establish specific training programs.

Thus, we recommend that a continuing assessment be made of the extent and efficiency of pertinent communications among the three principal components of the education-labor network, i.e., industry, the employment service, and the various education units.

CONTINUED EVALUATION IN THE DEVELOPMENT OF A MANAGEMENT INFORMATION SYSTEM (MIS)

PART II

A MANAGEMENT INFORMATION SYSTEM (MIS) FOR VOCATIONAL, TECHNICAL AND ADULT EDUCATION

by

Richard D. Pate

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WHY IS A MANAGEMENT INFORMATION SYSTEM FOR VOCATIONAL, TECHNICAL AND ADULT EDUCATION NEEDED?

This portion of the Statewide Evaluation of Vocational-Technical Education in Florida, 1971, is devoted to looking at the development of the Management Information System for vocational-technical education. The Advisory Council recommended last year that:

1. A Management Information System be developed and implemented with the highest priority.
2. In order to accomplish this recommendation, additional funding be provided.

This year's recommendations are that:

1. The Management Information System for Vocational, Technical and Adult Education again be given top priority.
2. A complete systems analysis study be undertaken immediately.
3. The Guidance Sub-System be added to the MIS.
4. A report of what disposition the State Department will make of the Advisory Council's recommendations be requested.

The following is a review of the need of such a system and an overview of the program to date.

> For too long, educators have looked at our educational system as a self-sufficient total system, quite autonomous and independent of other important and related systems. As a result, education has not anticipated the scientific, economic, or social needs of the society in which it operates

> and to which it contributes. School dropouts, youth unemployment, and related national problems reflect an inadequate response of the educational system to new and changing educational requirements in the technological society in which we live. This kind of restricted, nonsystematic thinking is also true for those of us with vested interests in audio-visual, guidance, administration, curriculum, and other areas of the educational program. We have rarely looked at the 'whole picture' to see what a change in our social or economic systems implies for education, or to see what a change in instruction or curriculum means for other areas of the total educational program in a school. An educational system is not a self-contained system. It interacts with the larger system of which it is a part, e.g., the community. The school produces an effect on the community, while the community, in turn, modifies the school's objectives in a dynamic way.[1]

Today we must consider the educational decision-maker in an even broader context. The educational community must be considered as including all those who have some interest in education. All members of the educational community, be they professionals--teachers or administrators--, parents, interested citizens, or students, potentially are educational decision-makers. In the traditional view, administrators make the decisions. Now we are recognizing that teachers, as individuals, make decisions in the classroom about what students need, how these needs are to be met, and the role of the teacher in meeting them. Further, teachers as an organized group now make decisions in their negotiations for contracts with boards of education, decisions affecting working conditions, the professional role, rewards and responsibilities of teachers. Parents make decisions at the voting booth and in relating to their children, reinforce either positively or negatively with their children what the schools are doing. Students today make individual decisions about learning or not learning (motivation), attending or not attending (absence or paying attention). And so we find within the educational system of today, in a pluralistic society, many decision-making roles--some independent, some overlapping, and some in conflict.

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[1] *Gary M. Andrew, Ronald E. Moir, Information Decision Systems in Education (Itasca, Ill.: Peacock, 1970), p. 23.*

The work of the executive is largely a matter of planning, directing and controlling activity. Intelligent control requires adequate and accurate information, presented in the form of usable reports. Educational policies have their origin in reports. Planned activity is checked through reports. An accurate record of accomplishment is a measure of performance. It is necessary to devise means which will bring executives timely, accurate, and comprehensive information essential in the administration of the enterprise.

Professor Herbert A. Simon has made a useful distinction between decisions that are made repetitively and those which are made on a "one-shot" basis. His

> . . . reason for distinguishing between programmed and nonprogrammed decisions is that different techniques are used for handling the programmed and nonprogrammed aspects of our decision making.
>
> Having christened them, I hasten to add that they are not really distinct types, but a whole continuum, with highly programmed decisions at one end of that continuum and highly unprogrammed decisions at the other end. We find decisions of all shades of gray along the continuum, and I use the terms programmed and nonprogrammed simply as labels for the black and the white of the range.[1]

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[1] *Herbert A. Simon, The Shape of Automation for Men and Management, quoted in Andrew and Moir, op. cit., pp. 14-15.*

TRADITIONAL AND MODERN TECHNIQUES OF DECISION MAKING[1]

Types of Decisions	Decision-Making Techniques	
	Traditional	Modern
Programmed: Routine, repetitive decisions Organization develops specific processes for handling them	1. Habit 2. Clerical routine: Standard operating procedures 3. Organization structure: Common expectations A system of subgoals Well-defined informational channels	1. Operations Research: Mathematical analysis Models Computer simulation 2. Electronic data processing
Nonprogrammed: One-shot, ill-structured novel, policy decisions Handled by general problem-solving processes	1. Judgment, intuition, and Creativity 2. Rules of thumb 3. Selection and training of executives	Heuristic problem-solving technique applied to: (2) Training human decision makers (b) Constructing heuristic computer programs

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[1] *Ibid.*, p. 16.

Unless decisions are made in the light of the future effects and the long-run direction of a school system, the solution obviously will be suboptimal and will not achieve the ultimate goals of the organization. Educators constantly are forced to solve problems on a year-to-year basis, e.g., overcrowding in schools. A new wing is added if the bond issue passes. A few new courses and a few new teachers are added if revenue is available. If a major bond issue passes, new buildings are built, etc. These may be good short-run solutions but, in the long run, we must look at the overall goals and plan a unified approach for achieving these goals. It is increasingly apparent that planning an educational system that will be adequate for the future must be formulated and planned many years prior to implementation in the classroom. Associated with this kind of planning will be a great need for an application of more rational methods for specifying educational objectives, assigning program priorities, evaluating program progress, and terminating or modifying programs when they no longer merit high priority.

There is an important principle here. The intrusion of some new part in a dynamic school organizational structure may merely replace the old and have minimal effect. In fact, it may even create "static" in the system because it confuses, causes resentment among staff members because of greater work loads, and, in general, makes all kinds of adjustments necessary. What is really required is an analysis of the whole educational structure before the fact. The system needs to be studied comprehensively and all the parts of the total process fitted together in a meaningful whole.

INTEGRATED INFORMATION SYSTEMS

> The primary purpose of an information system is to aid in decision making, either in the present or in the future, by one or more persons within the organization or in the hierarchy or organizations related to the organization's functions. It is imperative, therefore, that the planners of an information system recognize certain elemental functions that will be required of the present and the future. In decisions based on information need, data collected in the past are relevant only to the extent that they affect present or future decision making.[1]

A management information system can be defined as a combination of people, data processing equipment, input/output devices, and communications facilities. It supplies timely information to both management and non-management people for the planning and operation of a business.

First, decision makers in educational systems need to control the system, to make it do what they want it to do, and prevent it from doing other things. In order to do this, we need to understand the structure of the system: what its components are, what they do, how they are related, and how they work together. This is the task of the systems analyst.

In order for an educational system to reach a point where it can be specified, in terms of needed human resources, physical facilities, and costs, system requirements first must be developed. These requirements comprise the basic guidelines for subsequent system design and development.

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[1] *Andrew and Moir, op cit., p. 57.*

A plan is a selection of a course of action and the associated scheme necessary to implement the given course of action. There is increasing effort to structure long-range plans which will prevent some of the catastrophes from occurring as they occurred in the past. In order to choose such a long-range plan there are two basic principles involved: (1) Is the plan feasible? and (2) Can I find a plan which will more nearly meet the objectives of the system?

At the center of a large information system such as MIS a technical means of handling the vast amounts of data will be required. In the past, lack of equipment and personnel qualified to logistically handle this data have been the deterrent factors.

Growth in the computer business has been fed by technological advances that have made computing equipment less expensive and better each year. And technological progress definitely is going to continue at a high rate for at least another decade. For example, we might expect approximately a doubling in speed of large central processors during the next five years or so and a halving in cost per unit of computer power. Even more dramatic improvements in mini-computer cost-effectiveness seem assured. Gains by a factor of as high as ten may be possible before 1980.

As equipment is becoming more diverse, efficient, and less expensive, we are entering what sometimes is called Stage Three of computer usage. We have passed through the earlier periods, when the computer's capability was limited to performing simple clerical operations or to producing routine decisions in areas such as inventory control. Now the primary interest is in how computers can aid in major management decisions.

The heralded advantages or benefits of MIS can be summarized briefly as follows:

1. Provide information which is consistent, complete, accurate, meaningful and timely.
2. Ability to make faster and better decisions.
3. More effective management of operations.
4. Cost savings.
5. Improved community relations.

> The educator never will be free from making judgements. Research is continuing at an accelerated pace to develop ways of defining and measuring this type of data. We need it badly; we need to know the relationship between what is done in school and what students learn in school.[1]

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[1] *Ibid.*, p. 29.

MIS PROGRESS IN FLORIDA 1970-71

The Florida State Advisory Council on Vocational and Technical Education established as its highest priority in the 1970 Evaluation Report the recommendation for the development and implementation of a state-wide management information system for Vocational, Technical and Adult Education. It was recommended that it should include these major subsystems.

Industry

This subsystem would include such information as the immediate, short-range, and long-range personnel needs of industry and also would include the qualifications necessary for entry at a given level.

Curriculum

This subsystem would base the curriculum for a given program on the qualifications as detailed by industry.

Student

In addition to personal data, the student subsystem would contain attendance and academic data for an individual student and be the starting point for follow-up.

Personnel

The personnel subsystem would detail the personal data qualifications of each instructor and other employees of the system.

Facilities and Equipment

This subsystem would include all of the physical data and types of equipment used in the various programs.

Finance

As a by-product of the instructional process, the various financial transactions would be recorded in a manner compatible with PPBS and would allow cost-effectiveness studies and future planning models.

Guidance*

A combination of the industrial and student subsystems and educational institution information would be combined to produce an automated, terminal referenced, guidance system. Examples of this type of guidance system are evidenced in the Consad Project and Project CVIS (Computerized Vocational Information System) which has been in successful operation for about the last three years in Villa Park, Illinois.

Both of these are computerized, terminal based interacting systems. The systems, based on the student's personal and academic data, react via the computer terminal to provide the student with information about job qualifications, training requirements, job openings, what courses he might need, and other job-training information. Thus, with this type of information provided, the guidance counselor can concentrate on the more important aspects of counseling.

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*Recommended for inclusion this year.

FUTURE STATUS

This investigation indicated that only the following efforts have been programmed for the 1971-72 fiscal year:

A. Pinellas County (effective July 1, 1971) will be responsible for processing student personal and academic data for eleven area vocational centers and for the junior college vocational program.

Pinellas also will process instructor information from these same centers. This will not include information from the secondary centers for the upcoming year. The Pinellas Center also will continue to process the VTAD 20 Forms statewide.

According to the State Department of Education, Vocational Division:

> . . . it is felt that indispensable management information may be generated as a by-product of the instructional process as in the pilot student enrollment and teacher information system in Pinellas County which is now ready for statewide implementation. Data and reports regarding student enrollment, teachers, and facilities developed in this pilot project include the following:
>
> 1. Attendance reports--updated monthly from output of data supplied by instructors on each class.
> 2. Instructor schedules.
> 3. Student statistical data.
> 4. A consolidated high school cooperative education report--this report has eliminated the necessity of individual instructor reports for each unit.

5. Student interest questionnaire.
6. Labels (advisory committees, Department of Commerce, students, and all divisional personnel)
7. Other statistical capabilities include:
    a. Student schedules
    b. Facilities utilization
    c. Student followup
    d. Student attendance hours
    e. Numerous combinations of the above data.
8. Labor market information.

Implemented statewide, the total system will include all data elements and reporting capabilities developed through the pilot project. The techniques and methodology will be extended to encompass all 67 districts including secondary schools, area vocational education centers, and community colleges.

The advantages of statewide implementation include:

1. Non-duplication of enrollment data.
2. Timely and accurate information to meet Legislative, State, and Federal reporting requirements.
3. Operational efficiency by eliminating duplication of effort.
4. Providing the vital link for a complete vocational education information system.
5. Relieving administrators, supervisors, and teachers of data gathering and reporting tasks, enabling them to apply more time to their primary responsibilities.

B. Dade County has been assigned the responsibility for the student follow-up system. This, however, will continue in the planning phase for the 1971-72 year.

In exploring this area with the people responsible for Vocational-Technical Education in Dade County it appeared that they are not aware of the role they are slated to play in the MIS.

In fact, the impression was given that Dade County had been contacted about the availability of computer time but not about the specific application of the student follow-up system. Consequently, the Dade County people were very concerned about the apparent lack of statewide coordination in the development of the MIS.

The comment was made: "We have not seen anyone from the State Department of Education in quite a while." Had someone visited Dade County he would have discovered that Dade County has devoted considerable time and effort in the development of an "Educational Resource Management Information System."

It appears that Dade County has utilized a very systematic approach to the problems of resource management including cost-effectiveness, evaluation, and a great portion of the management information system. The following represents what Dade County envisions as the components and objectives of their Educational Resource Management Information System.

A. COMPONENTS OF THE INFORMATION SYSTEM

POPULATION AND EMPLOYMENT SURVEY DATA

STUDENT DATA

EMPLOYEE PERSONNEL DATA

INSTRUCTIONAL MATERIALS DATA

SUPPLIES DATA

EQUIPMENT DATA

FACILITIES DATA

THE PROGRAM PLAN AND BUDGET

FINANCE AND ACCOUNTING DATA

EVALUATION DATA

B. OBJECTIVES OF THE MANAGEMENT INFORMATION SYSTEM

THE DECISION FUNCTION	A. To provide information which will facilitate the decision processes in the allocation of resources to instructional and supporting programs in the Division of Vocational, Technical and Adult Education.
THE PLANNING AND OPERATING FUNCTIONS	B. To provide the planning, budgeting, scheduling, support, management and evaluation technology which will facilitate flexible decentralized program planning, budgeting, evaluation and resource management by all training centers, within the scope of centralized policy and program structures.
THE TOTAL DATA RELATIONSHIP FUNCTION	C. To provide an integrated information system, all components of which are interfaced in the following critical elements: 1. An end-product oriented common data base, including 2. Resource identification, cost and effectiveness at the point of application to behavioral goals and instructional objectives.
DECISION DATA FLOW MECHANISTIC FUNCTIONS	D. To provide the mechanistic means of handling and analyzing data for optimizing the allocation of resources among and within competing programs at the center level, and in the central program structure.
THE SOFTWARE PREPARATION	E. To provide data systems, procedures, input documents, and programs for the information system serving the Division of Vocational, Technical and Adult Education.
THE COMMUNICATING FUNCTION	F. To develop a uniform program planning, budgeting, evaluation and cost language applicable to all centers which will facilitate flexible decentralized program planning and management with uniform terminology.
THE SUPPORT ANALYSIS AND MANAGEMENT FUNCTIONS	G. To provide instructional program data and supporting data, as needed, to all planning, supporting and administrative personnel in order to fulfill the management functions within a described framework of optimization analysis.

MOTIVATING FUNCTIONS

H. To motivate creativity among center personnel in developing alternative programs and means of conducting them. The availability of a mechanized model in which to test and evaluate will stimulate this motivation, particularly if the support for worthy and approved innovations is assured by the system.

THE DECISION MODEL

I. To provide for the flow of operating data directly from the instructional activities and support activities into cost-effectiveness data output format.

THE EVALUATION FUNCTION

J. To develop an evaluation sub-system for performance effectiveness in each category of resources, for each course as a whole, and for each instructional and support program.

A VERY CRITICAL FUNCTION

K. To minimize paper flow and communicating time on program and management data:

1. By preparation of procedures and software for decentralized planning in a prototype center before full implementation.

2. By use of a uniform planning language with instructions for its decentralized use in centers.

3. By decentralizing the program data inputs within the disciplines of an integrated data system, with prescribed input data format, data handling and data outputs.

It is felt that much of Dade County's development efforts could be incorporated in Florida's MIS for Vocational-Technical Education.

C. Leon County will be planning for a facilities system in the up-coming year (1971-1972).

THE STATE PLAN

Throughout the Florida State Plan for the Administration of Vocational Education the need for statewide information is evidenced again and again. It cites the need for guidance information, manpower surveys, student information, fiscal information, facilities information, etc.

For example, quoting in part from pages 45-46 of Part I of the Florida State Plan:

> 3.26-2 Vocational Education Needs
>
> The State Board shall insure that the needs of students identified in parts 3.1-1 of this Part shall be met through instructional programs and services meeting one or more of the following criteria:
>
> (1) Instruction shall be designed to prepare persons for gainful employment as semiskilled or skilled workers or as technicians or semiprofessionals in recognized occupations and emerging occupations involving instruction for a specific occupation or for a cluster of closely-related occupations in an occupational field which lends itself to preparatory clustering. Instruction shall include classroom-related academic and technical instruction and field, shop, laboratory, cooperative work, apprenticeship, or other occupational experience, and may be provided for persons preparing to enter an occupation or for employed persons who need training or retraining to achieve job stability or advancement. Remedial or other instruction required to correct educational deficiencies so that persons may benefit from vocational instruction shall be an integral part of the vocational education for which the students are enrolled.
>
> (2) Instruction designed to prepare persons for enrollment in advanced or highly skilled vocational and technical education programs at the post-secondary level leading to

employment in recognized occupations or in new and emerging occupations, but not including instructional programs leading to a baccalaureate degree or professional training, as identified by the U.S. Commissioner, which is only incidentally intended to prepare for employment in technical occupations.

(3) Instruction designed to familiarize persons with the broad range of occupations for which special skills are required and the requisites for careers in such occupations.

To assist in accomplishing these instructional purposes, the State Board and local educational agencies shall establish and maintain vocational guidance and counseling services designed to:

(1) Identify and encourage the enrollment of persons needing vocational education.

(2) Provide persons with information needed for making informed and meaningful occupational choices.

(3) Assist persons while they are enrolled in vocational education programs.

(4) Aid persons in obtaining vocational placement.

(5) Determine the effectiveness of vocational instruction and guidance through appropriate followup activities.

At best the volume of information called for in The State Plan would be extremely difficult, if not impossible, to manage without a comprehensive Management Information System. Also, as indicated in The State Plan, very close and continuous cooperation between all local, state, and federal agencies having any effect on technical-vocational and adult education must be instituted.

Section 1.7 Cooperative Arrangements, states that such an agreement has been entered into with the Florida State Employment Service. It would seem that this agreement should be utilized to establish the industrial subsystem to provide manpower needs in very descriptive form.

SYSTEMS ANALYSIS STUDY

As indicated earlier in this report, decision makers in educational systems need, first, to control the system, to make it do what they want it to do, and prevent it from doing other things. In order to do this, we need to understand the structure of the system: what its components are, what they do, how they are related, and how they work together. This would lead one to believe that unless we are trying merely to computerize the same old historical data that has been collected in the past a complete systems analysis study must be undertaken immediately.

The structuring of any problem for subsequent scientific solution hinges upon well-known criteria. Some of the criteria that relate to the establishment of an information system are as follows:

> Why Is the Information Needed? Often, information systems specialists ignore asking the highest priority questions first, namely, "why?" These specialists either do a considerable amount of unnecessary work or else realize that the information is not requisite to any current or foreseeable need in the existing organization or in those organizations to which it may be subservient. Thus, the first question to answer in the establishment of the needs of an information system is simply "why is this information system, this data element, this process, needed?" If this question cannot be answered satisfactorily, a considerable amount of the effort can be expected to be wasted.
>
> What Information Is Needed? This second important question is in some respect necessary to define before the "why" is answered. Obviously the system cannot be planned or properly evolve unless the important "what" question is resolved to

the satisfaction of both the present and the ultimate user or users. All too often, the answer to "what" information is needed is amplified to the extent that considerable redundancy or irrelevancy of data is incorporated in lieu of a strong affirmative to the "why" question. In other instances, a very tenuous hypothetical case is built for the true need.

How Is the Information to Be Used? The answer to this question will determine in many cases when the information is to be collected, how it is to be disseminated, who is to use it--in short, the entire structure of the information system. Unless the user can translate to the system designer a logical, concise agreement on how the information is to be used, considerable effort and time can be wasted.

When Is the Information Needed? Timeliness is important, not only in the ability of the decision makers to use the information, but also in the economics of system design. Information normally costs less if it can be provided in a slower, or less prompt, manner. In many cases, considerable effort (and, more important, money) is wasted because the user feels that he must have instantaneous access to information. In the final analysis, however, his decision may not need to be reached until next year or in a time frame totally inconsistent with his supposed requirements for the information.

Who Is to Use the Information? This question must be satisfactorily answered to determine in what form the information should be presented. The amount of detail required for a clerk to process a particular application is wholly different from that required by the individual looking at the number of applicants from the national perspective. Data used by the clerk in processing a particular application are obviously more detailed than those data used by an individual with a national perspective in determining whether a program should be continued, amplified, or changed at all.

Where Should the Information Be Collected or Used? In most cases, the information should be collected and entered into the system in a very different place from where the information is actually used. In addition, the answer to the "where" part of the question is sometimes more than one answer. The same information can be tabulated or summarized in different fashions or by the various people who are required to make decisions based on this information.

P

SUMMARY

In summary, it is essential that the structure of the information system be planned, and that the common questions be asked and the answer defined and agreed upon, before a logical, economic and responsive information system can be designed and implemented for an organization.[1]

In the February 18, 1971 meeting of the Council Evaluation Committee, an evaluation progress report was given. The Evaluation Committee stressed the importance of the following factors:

a. What the information is to be used for and how it can be of value to the supplier.

b. Feedback to the supplier.

c. The need for communications in non-technical terminology.

d. The timeliness of the information.

e. The importance and need for this system to enhance the complete evaluative process.

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[1] *Ibid.*, pp. 57-58.

RECOMMENDATIONS

Lack of this statewide information has been a serious handicap to the effective evaluation of vocational-technical educational programs by the Study Group for Statewide Evaluation of Vocational-Technical Education in Florida.

Last year's recommendations were:

1. A Management Information System be developed and implemented with the highest priority.
2. In order to accomplish this recommendation, additional funding be provided.

Therefore, the following recommendations are submitted to the Advisory Council with the utmost urgency:

1. That the Management Information System for Vocational, Technical and Adult Education again be given top priority.
2. That complete systems analysis study be undertaken immediately.
3. That the Guidance Subsystem be added to the MIS.
4. That a report of what disposition the State Department of Education will make of the Advisory Council's recommendations be requested.

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